



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.  
ATLANTA, GEORGIA 30365

4WD-WPB

Victor Blix  
Black & Veatch Waste Science, Inc.  
400 Northridge Road, Suite 350  
Atlanta, GA 30350

RE: Site Inspection Prioritization  
Site Name: Vulcan Corporation  
EPA ID#: TND057874125

Dear Mr. Blix:

I have reviewed the SIP report on the above referenced site and made the following decision:

- ☒ Report acceptable as is and will serve as final SIP for the site. Please send me an additional copy of the report and references.
- ☐ Site reconnaissance, additional documentation and/or HRS scoring scenarios required. See comments section for details.
- ☐ Field sampling is needed at this site. See comments section for details.
- ☐ Report needs revisions as indicated in comments section. Please revise and submit final no later than \_\_\_\_/\_\_\_\_/\_\_\_\_.

Comments:

Please send two additional copies of the final report.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

If you have any questions regarding this matter, please contact me at 347-5059 ext. 6149.

Sincerely,

  
Site Assessment Manager

cc:  
Earl Bozeman, WAM  
Doug Thompson, PO  
Debbie Davidson, CO



## BLACK & VEATCH Waste Science, Inc.

400 Northridge Road, Suite 350, Atlanta, Georgia 30350, (404) 594-2500, Fax: (404) 587-2930

US EPA -- Region IV  
Site Inspections  
Work Assignment No. 12

BVWS Project 52012.279  
August 29, 1994

Mr. Narindar Kumar  
Chief, Site Assessment Section  
U.S. Environmental Protection Agency  
345 Courtland Street, NE  
Atlanta, Georgia 30365

Subject: Draft Site Inspection  
Prioritization  
Vulcan Corporation  
Clarksville, Montgomery County, TN  
EPA ID No. TND057874125

Dear Mr. Kumar:

Enclosed please find one copy of the Draft Site Inspection  
Prioritization for Vulcan Corporation in Clarksville, Montgomery County,  
Tennessee. If you have any questions, please contact me at  
404/643-2320.

Very truly yours,

BLACK & VEATCH Waste Science, Inc.

Victor Blix  
Project Manager

fw  
Enclosure

cc: Doug Thompson, EPA PO, w/o enclosures  
Deborah Davidson, EPA CO, w/o enclosures  
Earl Bozeman, EPA WAM, w/o enclosures

REC'D

AUG 30 1994

WFLD/CIS

**DYNAMAC**  
**CORPORATION**  
Environmental Services

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Peachtree Center Tower  
230 Peachtree Street, N.W.  
Suite 500  
Atlanta, GA 30303

Telephone: 404-681-0933  
Fax: 404-681-0894

REC'D

AUG 30 1994

WFLD

9/23/94  
NFAAP  
PM

August 26, 1994

Mr. Narindar Kumar, Chief  
Site Assessment Section  
U. S. Environmental Protection Agency  
345 Courtland Street, NE  
Atlanta, Georgia 30365

Subject: Site Inspection Prioritization  
Vulcan Corporation  
Clarksville, Montgomery County,  
Tennessee  
EPA ID TND057874125  
WL# 3724

Re: BVWS Contract N<sup>o</sup> 68-W9-0055 - Task Order 6, Amendment 2  
BVWS Project 52012.279  
Document Control BVWS-SIP-RD-144

Dear Mr. Kumar:

Dynamac Corporation has been tasked by BLACK & VEATCH Waste Science, Inc., under U.S. Environmental Protection Agency (EPA) Contract N<sup>o</sup> 68-W9-0055 to conduct a Site Inspection Prioritization for Vulcan Corporation (the facility) in Clarksville, Montgomery County, Tennessee. In accordance with the scope of work for this task order, a preliminary Hazard Ranking System (HRS) score was prepared to determine the need for future activities at the facility.

Vulcan Corporation, an active manufacturer of rubber products, is located at 1151 Pettus Street in an industrial area south of the Red River (Refs. 1; 2; 3). Available file information indicates that B.F. Goodrich operated the facility prior to 1972 when Vulcan Corporation assumed operations (Refs. 2; 4, pp. 1, 7, 12). Facility processes include the manufacturing of rubber soles and heels for the footwear industry (Ref. 3, p. ii). There is no indication if present operations at the facility are similar to those of B.F. Goodrich. Wastes generated at the facility include spent solvents, waste oil, sulfuric acid, di-n-octyl phthalate, phthalic anhydride, and xylene which are stored in 55-gallon drums and are subsequently transported offsite for disposal. Trash generated at the facility is taken to a sanitary landfill. Available file material indicates that no onsite disposal occurs at the facility. Also, there are no reports of any spills which occurred onsite. No samples have been collected at the facility (Refs. 3, p. 3; 4, pp. 1, 7; 5, pp. 1, 2).

A preliminary HRS score for the facility was calculated using the Site Inspection Worksheets. Pathways evaluated include groundwater migration, surface water migration, soil exposure and air migration. The score reflects a Hazardous Waste Quantity value of

10 for all pathways based on the entire area of the facility, 30 acres, which was evaluated as contaminated soil to present a "worst-case" scenario (Ref. 4, p. 7). Maximum contaminant characteristics values were assumed for all pathways.

Potable water within the 4-mile radius of the facility is obtained from Clarksville Gas and Water (CGW), which maintains a surface water intake on the Cumberland River. No private drinking water wells were identified in the 4-mile radius (Refs. 1; 6; 7). It was assumed that there are wells withdrawing water from the Mississippi carbonate aquifer (a karst aquifer) for resource uses (Ref. 8). No groundwater samples were collected at the facility; therefore, an observed release could not be documented. The groundwater migration pathway score was limited by the lack of an observed release and a lack of groundwater target population.

No overland migration route from the facility to a perennially flowing water body is shown on the U.S. Geological Survey topographic map of the area (Ref. 1). Available file material does not indicate if the facility discharges site runoff into a local sewer system. A potential for groundwater discharge to surface water is possible in the Clarksville area, however, due to the facility's location in an area of karst terrain (Refs. 1; 8). The Red River is located within 0.5 mile north of the facility, hence, there is a possibility of groundwater discharge to the Red River, a perennially flowing surface water body. The Red River flows west for 2 miles then converges with Lake Barkley/Cumberland River, where the 15-mile surface water migration pathway ends. The flow rate for the Red River at Port Royal, Tennessee is approximately 1,332 cubic feet per second (cfs), while the flow rate for Lake Barkley/Cumberland River is approximately 391,544 cfs (Ref. 13). The CGW surface water intake is located at river mile 133 on Lake Barkley/Cumberland River, which is a source of potable water for approximately 81,600 people (Refs. 6; 7; 9). The CGW intake is located upstream of the confluence of the Red River and Lake Barkley/Cumberland River and is not expected to be affected by a discharge from the facility. Lake Barkley/Cumberland River and the Red River are fisheries (Ref. 10). No wetlands are located along the 15-mile surface water migration pathway (Ref. 1). The Cumberland River is a critical habitat for the dromedary pearly mussel (*Pleurobema gibberum*), the orange-footed pearly mussel (*Plethobasus cooperianus*), the pink mucket pearly mussel (*Lampsilis orbiculata*) the rough pigtoe pearly mussel (*Pleurobema plenum*) and all succedent subspecies which are federally designated as endangered (Ref. 11). The ranges of several other federally designated endangered and/or threatened aquatic species include the entire state of Tennessee; however, specific habitat locations for these species have not been identified (Ref. 11). The surface water migration pathway score was limited by the lack of an observed release, low target values, and the large dilution factor values for Lake Barkley/Cumberland River and the Red River.

Land use within the 4-mile radius is a mixture of residential, commercial and industrial (Ref. 1). The facility is currently active and employs over 200 workers (Ref. 2). The

Mr. Narindar Kumar  
August 26, 1994  
Page 3

nearest residence is located approximately 200 feet west of the facility (Ref. 1). No samples were collected at the facility; however, surficial contamination was assumed. The soil exposure pathway score was limited due to low target population values. Approximately 347,454 people including over 200 onsite workers are located within the 4-mile radius (Refs. 2; 12). The air migration pathway was evaluated based on potential to release; no air samples were collected. Approximately 20 acres of wetlands are located within the 4-mile radius of the facility (Ref. 1). The ranges of several federally designated endangered and/or threatened species include the state of Tennessee; however specific habitat locations for these species have not been identified (Ref. 11).

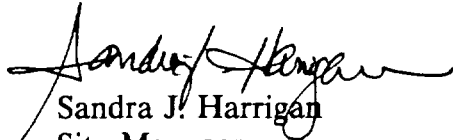
### HRS SCORING SUMMARY


$$\begin{aligned} S_{gw} &= 0.48 \\ S_{sw} &= 0.48 \\ S_{soil} &= 1.34 \\ S_{air} &= 7.96 \\ \text{OVERALL SCORE} &= 4.05 \end{aligned}$$

Based on available file material and the above overall site score, no further action is recommended for Vulcan Corporation.

Attached are all references used during this evaluation. If you have any questions or comments, please contact Victor Blix at (404) 643-2320.

Sincerely,

  
Sandra J. Harrigan  
Site Manager

  
Mary Jane Rigatti  
Manager, Atlanta Office

Enclosure

cc: Lori C. Conway, Dynamac Site Assessment Program Manager  
Victor Blix, BVWS SIP Project Manager  
File

## REFERENCES

1. U.S. Geological Survey, 7.5-minute series Topographic Quadrangle Maps of Tennessee: Clarksville 1957 (Photorevised [PR] 1984), Excell 1958 (PR 1983), New Providence 1957 (PR 1986), Palmyra 1958 (PR 1983), scale 1:24,000.
2. Sandra J. Harrigan, Dynamac Corporation, project note to file for Vulcan Corporation, May 23, 1994. Subject: Information obtained from the Clarksville Chamber of Commerce.
3. EPA Hazardous Waste Permit Application (EPA Form 3510-1) for Vulcan Corporation, Clarksville, Tennessee. Filed by Joe Dew, Plant Manager, November 12, 1980.
4. Charles Allen, Tennessee Department of Health and Environment, office correspondence with attachment to file for Vulcan Corporation, March 26, 1984. Subject: 3012 Program - Site Investigations, Vulcan Corporation.
5. Potential Hazardous Waste Site Preliminary Assessment (EPA Form 2070-12) for Vulcan Corporation. Filed by Barry Brawley, Tennessee Department of Health and Environment, Division of Solid Waste Management, December 21, 1983.
6. Donna Wallace, Billing Clerk, Clarksville Gas and Water, telephone conversation with Sandra J. Harrigan, Dynamac Corporation, May 16, 1994. Subject: Connections served by the Clarksville Gas and Water.
7. Richard Kraeske, Superintendent, Clarksville Gas and Water, Water Plant, telephone conversation with Sandra J. Harrigan, Dynamac Corporation, May 16, 1994. Subject: Service area of the Clarksville Gas and Water.
8. U.S. Geological Survey, National Water Summary 1984: Hydrologic Events, Selected Water-Quality Trends, and Ground-Water Resources, Water-Supply Paper 2275, (Washington, D.C.: GPO, 1985), excerpt, 4 pages.
9. U.S. Department of Commerce, Bureau of the Census, 1990 Census of Population and Housing: Summary Population and Housing Characteristics - Tennessee, 1990 CPH-1-44 (Washington, D.C.: GPO, 1991), excerpt, 2 pages.
10. Van Medlock, Fishery Biologist, Tennessee Department of Environment and Conservation, Division of Water Pollution Control, telephone conversation with Sandra Harrigan, May 23, 1994. Subject: Fishing on the Cumberland and Red Rivers.
11. United States Fish and Wildlife Service, Endangered and Threatened Species of the Southeastern United States (The Red Book), Vol. I (Washington, D.C.: GPO, 1992), excerpt, 8 pages.

12. U.S. Environmental Protection Agency Graphical Exposure Modeling System (GEMS) database, compiled from U.S. Bureau of the Census data (1990).
13. U.S. Geological Survey, Water Resources Data, Tennessee Water Year 1990, Water Data Report TN-90-1 (1991).

Site Name: Vulcan Corporation  
 Location: Clarksville, Montgomery County, Tennessee

**DRAFT**

## GROUNDWATER MIGRATION PATHWAY SCORESHEET

### Factor Categories and Factors

	<u>Likelihood of Release to an Aquifer</u>	<u>Maximum Value</u>	<u>Value Assigned</u>
1. Observed Release		550	<u>0</u>
2. Potential to Release			
2a. Containment		10	<u>10</u>
2b. Net Precipitation		10	<u>6</u>
2c. Depth to Aquifer		5	<u>3</u>
2d. Travel Time		35	<u>35</u>
2e. Potential to Release (lines 2a x [2b + 2c + 2d])		500	<u>440</u>
3. Likelihood of Release (higher of lines 1 and 2e)		550	<u>440</u>

### Waste Characteristics

4. Toxicity/Mobility	<sup>a</sup>	<u>10,000</u>	
5. Hazardous Waste Quantity	<sup>a</sup>	<u>10</u>	
6. Waste Characteristics	100		<u>18</u>

### Targets

7. Nearest Well	50	<u>0</u>	
8. Population			
8a. Level I Concentrations	<sup>b</sup>	<u>0</u>	
8b. Level II Concentrations	<sup>b</sup>	<u>0</u>	
8c. Potential Contamination	<sup>b</sup>	<u>0</u>	
8d. Population (lines 8a + 8b + 8c)	<sup>b</sup>	<u>0</u>	
9. Resources	5	<u>5</u>	
10. Wellhead Protection Area	20	<u>0</u>	
11. Targets (lines 7 + 8d + 9 + 10)	<sup>b</sup>		<u>5</u>

### Groundwater Migration Score for an Aquifer

12. Aquifer Score ([lines 3 x 6 x 11]/82,500) <sup>c</sup>	100	<u>0.48</u>
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### Groundwater Migration Pathway Score

13. Groundwater Migration Pathway Score ( $S_{gw}$ ) <sup>c</sup> (highest value from line 12 for all aquifers evaluated)	100	<u>0.48</u>
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<sup>a</sup> Maximum value applies to waste characteristics category.

<sup>b</sup> Maximum value not applicable.

<sup>c</sup> Do not round to nearest integer.



Site Name: Vulcan Corporation  
Location: Clarksville, Montgomery County, Tennessee

**DRAFT**

**GROUND WATER TO SURFACE WATER MIGRATION COMPONENT SCORESHEET**

Factor Categories and Factors

	<u>Likelihood of Release to an Aquifer</u>	<u>Maximum Value</u>	<u>Value Assigned</u>
1.	Observed Release	550	<u>0</u>
2.	Potential to Release		
2a.	Containment	10	<u>10</u>
2b.	Net Precipitation	10	<u>6</u>
2c.	Depth to Aquifer	5	<u>3</u>
2d.	Travel Time	35	<u>35</u>
2e.	Potential to Release (lines 2a x [2b + 2c + 2d])	500	<u>440</u>
3.	Likelihood of Release (higher of lines 1 and 2e)	550	<u>440</u>

Waste Characteristics

4.	Toxicity/Mobility/Persistence	<sup>a</sup>	<u>10,000</u>
5.	Hazardous Waste Quantity	<sup>a</sup>	<u>10</u>
6.	Waste Characteristics	100	<u>18</u>

Targets

7.	Nearest Intake	50	<u>0</u>
8.	Population		
8a.	Level I Concentrations	<sup>b</sup>	<u>0</u>
8b.	Level II Concentrations	<sup>b</sup>	<u>0</u>
8c.	Potential Contamination	<sup>b</sup>	<u>0</u>
8d.	Population (lines 8a + 8b + 8c)	<sup>b</sup>	<u>0</u>
9.	Resources	5	<u>5</u>
10.	Targets (lines 7 + 8d + 9)	<sup>b</sup>	<u>5</u>

Drinking Water Threat Score

11.	Drinking Water Threat Score ([lines 3 x 6 x 10]/82,500, subject to a maximum of 100)	100	<u>0.48</u>
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Site Name: Vulcan Corporation  
Location: Clarksville, Montgomery County, Tennessee

**DRAFT**

**GROUNDWATER TO SURFACE WATER MIGRATION COMPONENT SCORESHEET, Continued**

**Factor Categories and Factors**

<u>Likelihood of Release</u>	<u>Maximum Value</u>	<u>Value Assigned</u>
12. Likelihood of Release (same value as line 3)	550	<u>440</u>

**Waste Characteristics**

13. Toxicity/Mobility/Persistence Bioaccumulation	a	<u>5x10<sup>8</sup></u>
14. Hazardous Waste Quantity	a	<u>10</u>
15. Waste Characteristics	1,000	<u>180</u>

**Targets**

16. Food Chain Individual	50	<u>0</u>
17. Population		
17a. Level I Concentrations	b	<u>0</u>
17b. Level II Concentrations	b	<u>0</u>
17c. Potential Human Food Chain Contamination	b	<u>-</u>
17d. Population (lines 17a + 17b + 17c)	b	<u>0</u>
18. Targets (lines 16 + 17d)	b	<u>0</u>

**Human Food Chain Threat Score**

19. Human Food Chain Threat Score ([lines 12 x 15 x 18]/82,500, subject to a maximum of 100)	100	<u>0.00</u>
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**ENVIRONMENTAL THREAT**

**Likelihood of Release**

20. Likelihood of Release (same value as line 3)	550	<u>440</u>
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Site Name: Vulcan Corporation  
Location: Clarksville, Montgomery County, Tennessee

**DRAFT**

**GROUNDWATER TO SURFACE WATER MIGRATION COMPONENT SCORESHEET, Continued**

Factor Categories and Factors

<u>Likelihood of Release</u>	<u>Maximum Value</u>	<u>Value Assigned</u>
21. Ecosystem Toxicity/Mobility Persistence/Bioaccumulation	<sup>a</sup>	<u>5x10<sup>8</sup></u>
22. Hazardous Waste Quantity	<sup>a</sup>	<u>10</u>
23. Waste Characteristics	1,000	<u>180</u>

Targets

24. Sensitive Environments		
24a. Level I Concentrations	<sup>b</sup>	<u>0</u>
24b. Level II Concentrations	<sup>b</sup>	<u>0</u>
24c. Potential Contamination	<sup>b</sup>	<u>0</u>
24d. Sensitive Environments (lines 24a + 24b + 24c)	<sup>b</sup>	<u>0</u>
25. Targets (value from line 24d)	<sup>b</sup>	<u>0</u>

Environmental Threat Score

26. Environmental Threat Score ([lines 20 x 23 x 25]/82,500, subject to a maximum of 60)	60	<u>0.00</u>
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**GROUND WATER TO SURFACE WATER MIGRATION COMPONENT SCORE FOR A WATERSHED**

27. Watershed Score <sup>c</sup> (lines 11 + 19 + 26, subject to maximum of 100)	100	<u>0.48</u>
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**GROUND WATER TO SURFACE WATER MIGRATION COMPONENT SCORE**

28. Component Score (S <sub>gs</sub> ) <sup>c</sup> (highest score from line 27 for all watersheds evaluated, subject to a maximum of 100)	100	<u>0.48</u>
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- <sup>a</sup> Maximum value applies to waste characteristics category.  
<sup>b</sup> Maximum value not applicable.  
<sup>c</sup> Do not round to nearest integer.  
- Not evaluated

Site Name: Vulcan Corporation  
Location: Clarksville, Montgomery County, Tennessee

**DRAFT**

**SOIL EXPOSURE PATHWAY SCORESHEET**

<u>Factor Categories and Factors</u>	<u>Maximum Value</u>	<u>Value Assigned</u>
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**RESIDENT POPULATION THREAT**

Likelihood of Exposure

1. Likelihood of Exposure	550	<u>550</u>
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Waste Characteristics

2. Toxicity	<sup>a</sup>	<u>10,000</u>
3. Hazardous Waste Quantity	<sup>a</sup>	<u>10</u>
4. Waste Characteristics	100	<u>18</u>

Targets

5. Resident Individual	50	<u>0</u>
6. Resident Population		
6a. Level I Concentrations	<sup>b</sup>	<u>0</u>
6b. Level II Concentrations	<sup>b</sup>	<u>0</u>
6c. Resident Population (lines 6a + 6b)	<sup>b</sup>	<u>0</u>
7. Workers	15	<u>10</u>
8. Resources	5	<u>0</u>
9. Terrestrial Sensitive Environments	<sup>d</sup>	<u>0</u>
10. Targets (lines 5 + 6c + 7 + 8 + 9)	<sup>b</sup>	<u>10</u>

Resident Population Threat Score

11. Resident Population Threat ([lines 1 x 4 x 10]/82,500)	<sup>b</sup>	<u>1.20</u>
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**NEARBY POPULATION THREAT**

Likelihood of Exposure

12. Attractiveness/Accessibility	100	<u>10</u>
13. Area of Contamination	100	<u>100</u>
14. Likelihood of Exposure	500	<u>125</u>

Waste Characteristics

15. Toxicity	<sup>a</sup>	<u>10,000</u>
16. Hazardous Waste Quantity	<sup>a</sup>	<u>10</u>
17. Waste Characteristics	100	<u>18</u>

Site Name: Vulcan Corporation  
Location: Clarksville, Montgomery County, Tennessee

**DRAFT**

**SOIL EXPOSURE PATHWAY SCORESHEET, Concluded**

<u>Factor Categories and Factors</u>	<u>Maximum Value</u>	<u>Value Assigned</u>
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**NEARBY POPULATION THREAT (Concluded)**

Targets

18. Nearby Individual	1	<u>1</u>
19. Population Within 1 Mile	b	<u>5</u>
20. Targets (lines 18 + 19)	b	<u>6</u>

Nearby Population Threat Score

21. Nearby Population Threat ([lines 14 x 17 x 20]/82,500)	b	<u>0.14</u>
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**SOIL EXPOSURE PATHWAY SCORE**

22. Soil Exposure Pathway Score ( $S_{soil}$ ) <sup>d</sup> (lines 11 + 21, subject to a maximum of 100)	100	<u>1.34</u>
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<sup>a</sup> Maximum value applies to waste characteristics category.

<sup>b</sup> Maximum value not applicable.

<sup>c</sup> Do not round to nearest integer.

<sup>d</sup> No specific maximum value applies to factor. However, a pathway score based solely on sensitive environments is limited to a maximum value of 60.

Site Name: Vulcan Corporation  
Location: Clarksville, Montgomery County, Tennessee

**DRAFT**

### AIR MIGRATION PATHWAY SCORESHEET

#### Factor Categories and Factors

<u>Likelihood of Release</u>	<u>Maximum Value</u>	<u>Value Assigned</u>
1. Observed Release	550	<u>0</u>
2. Potential to Release		
2a. Gas Potential to Release	500	<u>-</u>
2b. Particulate Potential to Release	500	<u>-</u>
2c. Potential to release (higher of lines 2a and 2b)	500	<u>500*</u>
3. Likelihood of Release (higher of lines 1 and 2c)	550	<u>500*</u>
<u>Waste Characteristics</u>		
4. Toxicity/Mobility	<sup>a</sup>	<u>10,000</u>
5. Hazardous Waste Quantity	<sup>a</sup>	<u>10</u>
6. Waste Characteristics	100	<u>18</u>
<u>Targets</u>		
7. Nearest Individual	50	<u>20</u>
8. Population		
8a. Level I Concentrations	<sup>b</sup>	<u>0</u>
8b. Level II Concentrations	<sup>b</sup>	<u>0</u>
8c. Potential Contamination	<sup>b</sup>	<u>53</u>
8d. Population (lines 8a + 8b + 8c)	<sup>b</sup>	<u>53</u>
9. Resources	5	<u>0</u>
10. Sensitive Environments		
10a. Actual Contamination	<sup>d</sup>	<u>0</u>
10b. Potential Contamination	<sup>d</sup>	<u>0</u>
10c. Sensitive Environments (lines 10a + 10b)	<sup>d</sup>	<u>0</u>
11. Targets (lines 7 + 8d + 9 + 10c)	<sup>b</sup>	<u>73</u>
<u>Air Migration Pathway Score</u>		
12. Air Migration Pathway Score ( $S_{air}$ ) <sup>c</sup> ([lines 3 x 6 x 11]/82,500)	100	<u>7.96</u>

<sup>a</sup> Maximum value applies to waste characteristics category.

<sup>b</sup> Maximum value not applicable.

<sup>c</sup> Do not round to nearest integer.

<sup>d</sup> No specific maximum value applies to factor. However, a pathway score based solely on sensitive environments is limited to a maximum value of 60.

\* Default value.

- Not evaluated.

## GENERAL INFORMATION (continued)

**Site Sketch:** Provide a sketch of the site. Indicate all pertinent features of the site and nearby environments including sources of wastes, areas of visible and buried wastes, buildings, residences, access roads, parking areas, fences, fields, drainage patterns, water bodies, vegetation, wells, sensitive environments, and other features.

no site sketch is available in the file material.

## GENERAL INFORMATION (continued)

**Source Descriptions:** Describe all sources at the site. Identify source type and relate to waste disposal operations. Provide source dimensions and the best available waste quantity information. Describe the condition of sources and all containment structures. Cite references.

### SOURCE TYPES

**Landfill:** A man-made (by excavation or construction) or natural hole in the ground into which wastes have come to be disposed by backfilling, or by contemporaneous soil deposition with waste disposal.

**Surface Impoundment:** A natural topographic depression, man-made excavation, or diked area, primarily formed from earthen materials (lined or unlined) and designed to hold an accumulation of liquid wastes, wastes containing free liquids, or sludges not backfilled or otherwise covered; depression may be wet with exposed liquid or dry if deposited liquid has evaporated, volatilized or leached; structures that may be described as lagoon, pond, aeration pit, settling pond, tailings pond, sludge pit; also a surface impoundment that has been covered with soil after the final deposition of waste materials (i.e., buried or backfilled).

**Drum:** A portable container designed to hold a standard 55-gallon volume of wastes.

**Tank and Non-Drum Container:** Any device, other than a drum, designed to contain an accumulation of waste that provides structural support and is constructed primarily of fabricated materials (such as wood, concrete, steel, or plastic); any portable or mobile device in which waste is stored or otherwise handled.

**Contaminated Soil:** An area or volume of soil onto which hazardous substances have been spilled, spread, disposed, or deposited.

**Pile:** Any non-containerized accumulation above the ground surface of solid, non-flowing wastes; includes open dumps. Some types of waste piles are:

- **Chemical Waste Pile:** A pile consisting primarily of discarded chemical products, by-products, radioactive wastes, or used or unused feedstocks.
- **Scrap Metal or Junk Pile:** A pile consisting primarily of scrap metal or discarded durable goods (such as appliances, automobiles, auto parts, batteries, etc.) composed of materials containing hazardous substances.
- **Tailings Pile:** A pile consisting primarily of any combination of overburden from a mining operation and tailings from a mineral mining, beneficiation, or processing operation.
- **Trash Pile:** A pile consisting primarily of paper, garbage, or discarded non-durable goods containing hazardous substances.

**Land Treatment:** Landfarming or other method of waste management in which liquid wastes or sludges are spread over land and tilled, or liquids are injected at shallow depths into soils.

**Other:** Sources not in categories listed above.



GENERAL INFORMATION (continued)

Source Description: Include description of containment per pathway for ground water (see HRS Table 3-2), surface water (see HRS Table 4-2), and air (see HRS Tables 6-3 and 6-9).

Available file material indicates that spent solvents and solvent sludges are stored in drums until they are picked up by a waste transporter to the local town is taken to a local sanitary landfill. no on-site disposal - no spills mentioned  
\*Waste is stored for less than 90 days. No samples collected

TDHE SI Report 1988 pp. 1,4; PA-1983 p. 1

Hazardous Waste Quantity (HWQ) Calculation: SI Tables 1 and 2 (See HRS Tables 2-5, 2-6, and 5-2).

2,000 gallons of drums of waste generated every 3 months. (SI, p. 4)

Assumes that there is contaminated soil onsite, and using the site area, 30 acres, to prevent the worst case scenario. (SI, p. 7)

$$30 \text{ acres} \times 43,560 \text{ ft}^2/\text{acre} = 1,306,800 \text{ ft}^2$$

$$\text{HWQ} = 10$$

Attach additional pages, if necessary

HWQ = 10

SI TABLE 1: HAZARDOUS WASTE QUANTITY (HWQ) SCORES FOR SINGLE SOURCE SITES AND FORMULAS FOR MULTIPLE SOURCE SITES

		Single Source Sites (assigned HWQ scores)	
(Column 1) TIER	(Column 2) Source Type	(Column 3) HWQ = 10	(Column 4) HWQ = 100
<b>A</b> Hazardous Constituent Quantity	N/A	HWQ = 1 if Hazardous Constituent Quantity data are complete  HWQ = 10 if Hazardous Constituent Quantity data are not complete	>100 to 10,000 lbs
<b>B</b> Hazardous Wastestream Quantity	N/A	≤ 500,000 lbs	>500,000 to 50 million lbs
<b>C</b> Volume	Landfill	≤ 6.75 million ft <sup>3</sup> ≤ 250,000 yd <sup>3</sup>	>6.75 million to 675 million ft <sup>3</sup> >250,000 to 25 million yd <sup>3</sup>
	Surface impoundment	≤ 6,750 ft <sup>3</sup> ≤ 250 yd <sup>3</sup>	>6,750 to 675,000 ft <sup>3</sup> >250 to 25,000 yd <sup>3</sup>
	Drums	≤ 1,000 drums	>1,000 to 100,000 drums
	Tanks and non-drum containers	≤ 50,000 gallons	>50,000 to 5 million gallons
	Contaminated soil	≤ 6.75 million ft <sup>3</sup> ≤ 250,000 yd <sup>3</sup>	>6.75 million to 675 million ft <sup>3</sup> >250,000 to 25 million yd <sup>3</sup>
	Pile	≤ 6,750 ft <sup>3</sup> ≤ 250 yd <sup>3</sup>	>6,750 to 675,000 ft <sup>3</sup> >250 to 25,000 yd <sup>3</sup>
	Other	≤ 6,750 ft <sup>3</sup> ≤ 250 yd <sup>3</sup>	>6,750 to 675,000 ft <sup>3</sup> >250 to 25,000 yd <sup>3</sup>
<b>D</b> Area	Landfill	≤ 340,000 ft <sup>2</sup> ≤ 7.8 acres	>340,000 to 34 million ft <sup>2</sup> >7.8 to 780 acres
	Surface impoundment	≤ 1,300 ft <sup>2</sup> ≤ 0.029 acres	>1,300 to 130,000 ft <sup>2</sup> >0.029 to 2.9 acres
	Contaminated soil	≤ 3.4 million ft <sup>2</sup> ≤ 78 acres	> 3.4 million to 340 million ft <sup>2</sup> > 78 to 7,800 acres
	Pile	≤ 1,300 ft <sup>2</sup> ≤ 0.029 acres	>1,300 to 130,000 ft <sup>2</sup> >0.029 to 2.9 acres
	Land treatment	≤ 27,000 ft <sup>2</sup> ≤ 0.62 acres	>27,000 to 2.7 million ft <sup>2</sup> >0.62 to 62 acres

1 ton = 2,000 pounds = 1 cubic yard = 4 drums = 200 gallons

TABLE 1 (CONTINUED)

Single Source Sites (assigned HWQ scores)		Multiple Source Sites	(Column 2)	(Column 1)
(Column 5)	(Column 6)	(Column 7) Divisors for Assigning Source WQ Values	Source Type	TIER
HWQ = 10,000	HWQ = 1,000,000			
>10,000 to 1 million lbs	> 1 million lbs	lbs + 1	N/A	<b>A</b> Hazardous Constituent Quantity
>50 million to 5 billion lbs	> 5 billion lbs	lbs + 5,000	N/A	<b>B</b> Hazardous Wastestream Quantity
>675 million to 67.5 billion ft <sup>3</sup> >25 million to 2.5 billion yd <sup>3</sup> >675,000 to 67.5 million ft <sup>3</sup> >25,000 to 2.5 million yd <sup>3</sup> >100,000 to 10 million drums >5 million to 500 million gallons	> 67.5 billion ft <sup>3</sup> > 2.5 billion yd <sup>3</sup> > 67.5 million ft <sup>3</sup> > 2.5 million yd <sup>3</sup> > 10 million drums > 500 million gallons	ft <sup>3</sup> + 67,500 yd <sup>3</sup> + 2,500 ft <sup>3</sup> + 67.5 yd <sup>3</sup> + 2.5 drums + 10 gallons + 500	Landfill Surface Impoundment Drums Tanks and non-drum containers Contaminated Soil Pile Other	<b>C</b> Volume
>34 million to 3.4 billion ft <sup>2</sup> >780 to 78,000 acres >130,000 to 13 million ft <sup>2</sup> >2.9 to 290 acres > 340 million to 34 billion ft <sup>2</sup> > 7,800 to 780,000 acres > 130,000 to 13 million ft <sup>2</sup> > 2.9 to 290 acres >2.7 million to 270 million ft <sup>2</sup> >62 to 6,200 acres	> 3.4 billion ft <sup>2</sup> >78,000 acres > 13 million ft <sup>2</sup> > 290 acres > 34 billion ft <sup>2</sup> > 780,000 acres > 13 million ft <sup>2</sup> > 290 acres > 270 million ft <sup>2</sup> > 6,200 acres	ft <sup>2</sup> + 3,400 acres + 0.078 ft <sup>2</sup> + 13 acres + 0.00029 ft <sup>2</sup> + 34,000 acres + 0.78 ft <sup>2</sup> + 13 acres + 0.00029 ft <sup>2</sup> + 270 acres + 0.0062	Landfill Surface Impoundment Contaminated Soil Pile Land Treatment	<b>D</b> Area

1 ton = 2,000 pounds = 1 cubic yard = 4 drums = 200 gallons

## HAZARDOUS WASTE QUANTITY (HWQ) CALCULATION

For each migration pathway, evaluate HWQ associated with sources that are available (i.e., incompletely contained) to migrate to that pathway. (Note: If *Actual Contamination Targets* exist for ground water, surface water, or air migration pathways, assign the calculated HWQ score or 100, whichever is greater, as the HWQ score for that pathway.) For each source, evaluate HWQ for one or more of the four tiers (SI Table 1; HRS Table 2-5) for which data exist: constituent quantity, wastestream quantity, source volume, and source area. Select the tier that gives the highest value as the source HWQ. Select the source volume HWQ rather than source area HWQ if data for both tiers are available.

Column 1 of SI Table 1 indicates the quantity tier. Column 2 lists source types for the four tiers. Columns 3, 4, 5, and 6 provide ranges of waste amount for sites with only one source, corresponding to HWQ scores at the tops of the columns. Column 7 provides formulas to obtain source waste quantity values at sites with multiple sources.

1. Identify each source type.
2. Examine all waste quantity data available for each source. Record constituent quantity and waste stream mass or volume. Record dimensions of each source.
3. Convert source measurements to appropriate units for each tier to be evaluated.
4. For each source, use the formulas in the last column of SI Table 1 to determine the waste quantity value for each tier that can be evaluated. Use the waste quantity value obtained from the highest tier as the quantity value for the source.
5. Sum the values assigned to each source to determine the total site waste quantity.
6. Assign HWQ score from SI Table 2 (HRS Table 2-6).

Note these exceptions to evaluate soil exposure pathway HWQ (see HRS Table 5-2):

- The divisor for the area (square feet) of a landfill is 34,000.
- The divisor for the area (square feet) of a pile is 34.
- Wet surface impoundments and tanks and non-drum containers are the only sources for which volume measurements are evaluated for the soil exposure pathway.

SI TABLE 2: HWQ SCORES FOR SITES

Site WQ Total	HWQ Score
0	0
1 <sup>a</sup> to 100	1 <sup>b</sup>
> 100 to 10,000	100
> 10,000 to 1 million	10,000
> 1 million	1,000,000

<sup>a</sup> If the WQ total is between 0 and 1, round it to 1.

<sup>b</sup> If the hazardous constituent quantity data are not complete, assign the score of 10.

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**Ground Water Observed Release Substances Summary Table**

On SI Table 4, list the hazardous substances associated with the site detected in ground water samples for that aquifer. Include only those substances directly observed or with concentrations significantly greater than background levels. Obtain toxicity values from the Superfund Chemical Data Matrix (SCDM). Assign mobility a value of 1 for all observed release substances regardless of the aquifer being evaluated. For each substance, multiply the toxicity by the mobility to obtain the toxicity/mobility factor value; enter the highest toxicity/mobility value for the aquifer in the space provided.

**Ground Water Actual Contamination Targets Summary Table**

If there is an observed release at a drinking water well, enter each hazardous substance meeting the requirements for an observed release by well and sample ID on SI Table 5 and record the detected concentration. Obtain benchmark, cancer risk, and reference dose concentrations from SCDM. For MCL and MCLG benchmarks, determine the highest percentage of benchmark obtained for any substance. For cancer risk and reference dose, sum the percentages for the substances listed. If benchmark, cancer risk, or reference dose concentrations are not available for a particular substance, enter N/A for the percentage. If the highest benchmark percentage or the percentage sum calculated for cancer risk or reference dose equals or exceeds 100%, evaluate the population using the well as a Level I target. If these percentages are less than 100% or all are N/A, evaluate the population using the well as a Level II target for that aquifer.

SI TABLE 4: GROUND WATER OBSERVED RELEASE SUBSTANCES (BY AQUIFER)

Sample ID	Hazardous Substance	Bckgrd. Conc.	Toxicity/ Mobility	References
Highest Toxicity/Mobility				

*no observed release -  
no gw - samples collected*

SI TABLE 5: GROUND WATER ACTUAL CONTAMINATION TARGETS

Well ID: \_\_\_\_\_ Level I \_\_\_\_\_ Level II \_\_\_\_\_ Population Served \_\_\_\_\_ References \_\_\_\_\_

Sample ID	Hazardous Substance	Conc. (µg/L)	Benchmark Conc. (MCL or MCLG)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RfD	% of RfD
Highest Percent					Sum of Percents		Sum of Percents	

Well ID: \_\_\_\_\_ Level I \_\_\_\_\_ Level II \_\_\_\_\_ Population Served \_\_\_\_\_ References \_\_\_\_\_

Sample ID	Hazardous Substance	Conc. (µg/L)	Benchmark Conc. (MCL or MCLG)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RfD	% of RfD
Highest Percent					Sum of Percents		Sum of Percents	

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GROUND WATER PATHWAY  
GROUND WATER USE DESCRIPTION

Describe Ground Water Use within 4 Miles of the Site:

Describe generalized stratigraphy, aquifers, municipal and private wells

\_\_\_\_\_

The purpose of this study was to determine if

1. The first part of the paper is devoted to the study of the

\_\_\_\_\_

10. 11. 1954

\_\_\_\_\_

\_\_\_\_\_

4. Temperature - Season - Year - Location. The temperature

1. What is the purpose of the study?  
 2. What are the research questions or hypotheses?  
 3. What is the study design?  
 4. What are the variables?  
 5. What are the data collection methods?  
 6. What are the results?  
 7. What are the conclusions?  
 8. What are the limitations?  
 9. What are the implications?  
 10. What are the future directions?

[illegible]

D. W. Hall Union 5/16/94 2 tracks taken 5/16/94

1984 National Water Conference, Toronto

Show Calculations of Ground Water Drinking Water Populations for each Aquifer:

Provide apportionment calculations for blended supply systems.

County average number of persons per household: 2.72 Reference Census Data

5000 10000 15000 20000 25000 30000 35000 40000 45000 50000 55000 60000 65000 70000 75000 80000 85000 90000 95000 100000

The Con w/ D. Drake.



## GROUND WATER PATHWAY WORKSHEET

LIKELIHOOD OF RELEASE	Score	Data Type	Refs
1. OBSERVED RELEASE: If sampling data or direct observation support a release to the aquifer, assign a score of 550. Record observed release substances on SI Table 4.	5	-	SI Table 4
2. POTENTIAL TO RELEASE: Depth to aquifer: _____ feet. If sampling data do not support a release to the aquifer, and the site is in karst terrain or the depth to aquifer is 70 feet or less, assign a score of 500; otherwise, assign a score of 340. Optionally, evaluate potential to release according to HRS Section 3.	44	4	SI Table 4

LR =

## TARGETS

Are any wells part of a blended system? Yes _____ No _____ If yes, attach a page to show apportionment calculations.			SI Table 4
3. ACTUAL CONTAMINATION TARGETS: If analytical evidence indicates that any target drinking water well for the aquifer has been exposed to a hazardous substance from the site, evaluate the factor score for the number of people served (SI Table 5).  Level I: _____ people x 10 = _____ Level II: _____ people x 1 = _____ Total =	0	11	SI Table 5
4. POTENTIAL CONTAMINATION TARGETS: Determine the number of people served by drinking water wells for the aquifer or overlying aquifers that are not exposed to a hazardous substance from the site; record the population for each distance category in SI Table 6a or 6b. Sum the population values and multiply by 0.1.	0		
5. NEAREST WELL: Assign a score of 50 for any Level I Actual Contamination Targets for the aquifer or overlying aquifer. Assign a score of 45 if there are Level II targets but no Level I targets. If no Actual Contamination Targets exist, assign the Nearest Well score from SI Table 6a or 6b. If no drinking water wells exist within 4 miles, assign 0.	0		
6. WELLHEAD PROTECTION AREA (WHPA): If any source lies within or above a WHPA for the aquifer, or if a ground water observed release has occurred within a WHPA, assign a score of 20; assign 5 if neither condition applies but a WHPA is within 4 miles; otherwise assign 0.	5	-	
7. RESOURCES: Assign a score of 5 if one or more ground water resource applies; assign 0 if none applies.  <ul style="list-style-type: none"> <li>• Irrigation (5 acre minimum) of commercial food crops or commercial forage crops</li> <li>• Watering of commercial livestock</li> <li>• Ingredient in commercial food preparation</li> <li>• Supply for commercial aquaculture</li> <li>• Supply for a major or designated water recreation area, excluding drinking water use</li> </ul>	5	-	

Sum of Targets T=

5

SI TABLE 6 (From HRS TABLE 3-12): VALUES FOR POTENTIAL CONTAMINATION GROUND WATER  
TARGET POPULATIONS

SI Table 6a: Other Than Karst Aquifers

Distance from Site	Pop.	Nearest Well (choose highest)	Population Served by Wells within Distance Category												Pop. Value	Ref.
			1 to 10	11 to 30	31 to 100	101 to 300	301 to 1000	1001 to 3000	3001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	1,000,000 to 3,000,000		
0 to $\frac{1}{4}$ mile		20	4	17	53	164	522	1,633	5,214	16,325	52,137	163,246	521,360	1,632,455		
$> \frac{1}{4}$ to $\frac{1}{2}$ mile		18	2	11	33	102	324	1,013	3,233	10,122	32,325	101,213	323,243	1,012,122		
$> \frac{1}{2}$ to 1 mile		9	1	5	17	52	167	523	1,669	5,224	16,684	52,239	166,835	522,385		
> 1 to 2 miles		5	0.7	3	10	30	94	294	939	2,939	9,385	29,384	93,845	293,842		
> 2 to 3 miles		3	0.5	2	7	21	68	212	678	2,122	6,778	21,222	67,777	212,219		
> 3 to 4 miles		2	0.3	1	4	13	42	131	417	1,306	4,171	13,060	41,709	130,596		
Nearest Well = <input type="text"/>															Sum = <input type="text"/>	

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TABLE J-1  
GROUND WATER MIGRATION PATHWAY SCORESHEET

Factor Categories and Factors

<u>Likelihood of Release to an Aquifer</u>	<u>Maximum Value</u>	<u>Value Assigned</u>	
1. Observed Release	550	<u>0</u>	
2. Potential to Release			
2a. Containment	10	<u>10</u>	
2b. Net Precipitation	10	<u>6</u>	
2c. Depth to Aquifer	5	<u>3</u>	10 (6+3+35)
2d. Travel Time	35	<u>35</u>	10 (44)
2e. Potential to Release (lines 2a x (2b + 2c + 2d))	500	<u>440</u>	440
3. Likelihood of Release (higher of lines 1 and 2e)	550	<u>440</u>	
<u>Waste Characteristics</u>			
4. Toxicity/Mobility	<sup>a</sup>	<u>    </u>	
5. Hazardous Waste Quantity	<sup>a</sup>	<u>    </u>	
6. Waste Characteristics	100	<u>    </u>	
<u>Targets</u>			
7. Nearest Well	50	<u>    </u>	
8. Population			
8a. Level I Concentrations	<sup>b</sup>	<u>    </u>	
8b. Level II Concentrations	<sup>b</sup>	<u>    </u>	
8c. Potential Contamination	<sup>b</sup>	<u>    </u>	
8d. Population (lines 8a + 8b + 8c)	<sup>b</sup>	<u>    </u>	
9. Resources	5	<u>    </u>	
10. Wellhead Protection Area	20	<u>    </u>	
11. Targets (lines 7 + 8d + 9 + 10)	<sup>b</sup>	<u>    </u>	
<u>Ground Water Migration Score for an Aquifer</u>			
12. Aquifer Score [(lines 3 x 6 x 11) / 82,500] <sup>c</sup>	100	<u>    </u>	
<u>Ground Water Migration Pathway Score</u>			
13. Pathway Score ( $S_{gw}$ ). (highest value from line 12 for all aquifers evaluated) <sup>c</sup>	100	<u>    </u>	

<sup>a</sup>Maximum value applies to waste characteristics category.

<sup>b</sup>Maximum value not applicable.

<sup>c</sup>Do not round to nearest integer.

C-15B

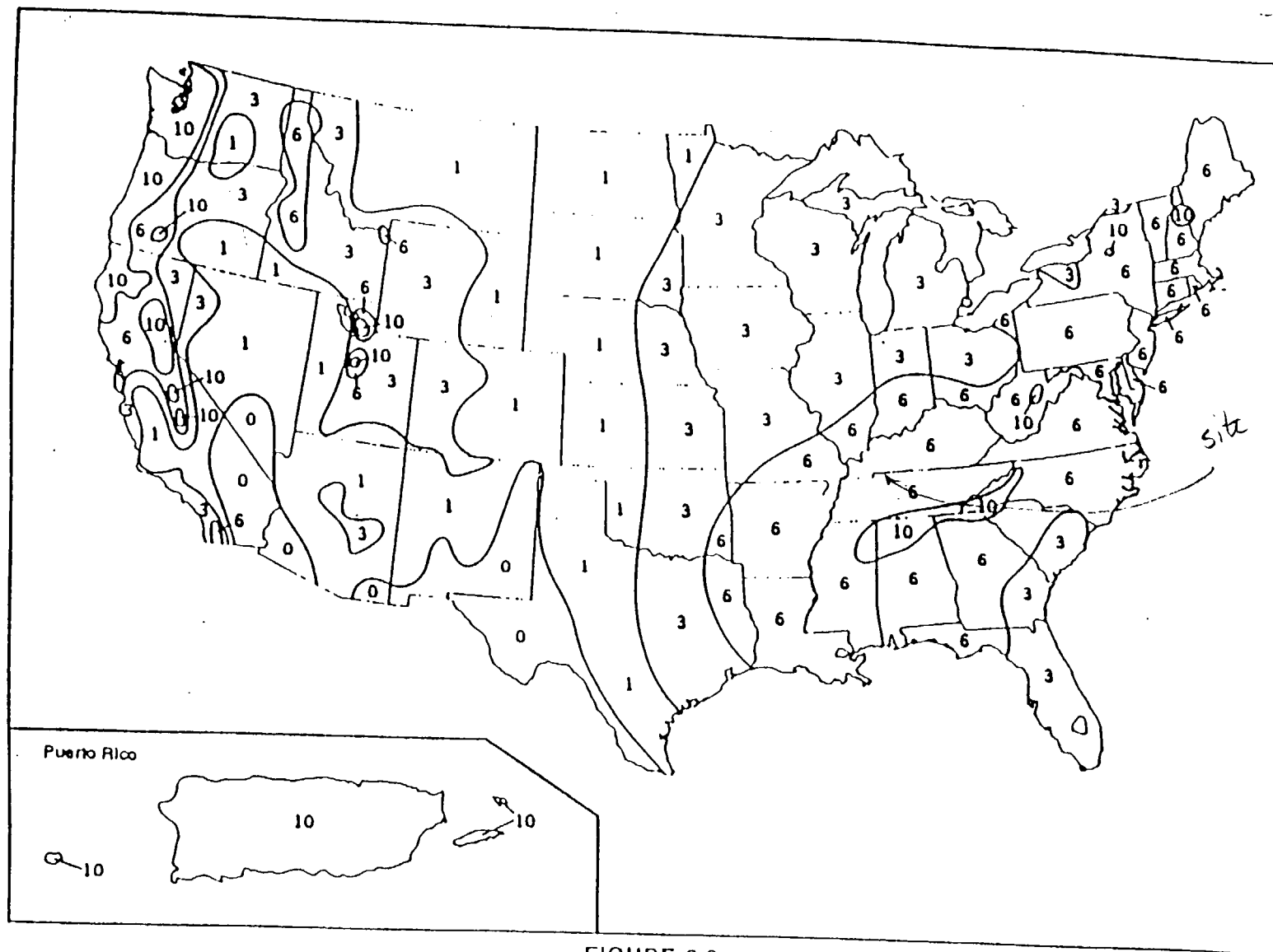


FIGURE 3-2  
NET PRECIPITATION FACTOR VALUES

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TABLE 3-4  
NET PRECIPITATION FACTOR VALUES

<u>Net Precipitation (inches)</u>	<u>Assigned Value</u>
0	0
Greater than 0 to 5	1
Greater than 5 to 15	3
Greater than 15 to 30	6
Greater than 30	10

Values obtained from page 3-2

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TABLE 3-5  
DEPTH TO AQUIFER FACTOR VALUES

<u>Depth To Aquifer<sup>a</sup></u> <u>(feet)</u>	<u>Assigned</u> <u>Value</u>
Less than or equal to 25	5
- Greater than 25 to 250	3
Greater than 250	1

<sup>a</sup>Use depth of all layers between the hazardous substances and aquifer. Assign a thickness of 0 feet to any karst aquifer that underlies any portion of the sources at the site.

- Topo map

- National Water Summary - 1784  
USGS Water Supply Paper 2275

TABLE 3-6  
HYDRAULIC CONDUCTIVITY OF GEOLOGIC MATERIALS

Type of Material	Assigned Hydraulic Conductivity <sup>a</sup> (cm/sec)
Clay; low permeability till (compact unfractured till); shale; unfractured metamorphic and igneous rocks	10 <sup>-8</sup>
Silt; loesses; silty clays; sediments that are predominantly silts; moderately permeable till (fine-grained, unconsolidated till, or compact till with some fractures); low permeability limestones and dolomites (no karst); low permeability sandstone; low permeability fractured igneous and metamorphic rocks	10 <sup>-6</sup>
Sands; sandy silts; sediments that are predominantly sand; highly permeable till (coarse-grained, unconsolidated or compact and highly fractured); peat; moderately permeable limestones and dolomites (no karst); moderately permeable sandstone; moderately permeable fractured igneous and metamorphic rocks	10 <sup>-4</sup>
Gravel; clean sand; highly permeable fractured igneous and metamorphic rocks; permeable basalt; <u>karst</u> limestones and dolomites	10 <sup>-2</sup>

<sup>a</sup>Do not round to nearest integer.

National Water Summary 1984  
U.S.G.S. Water Supply Paper 2275

TABLE 3-7  
TRAVEL TIME FACTOR VALUES<sup>a</sup>

Hydraulic Conductivity (cm/sec)	Thickness of Lowest Hydraulic Conductivity Layer(s) <sup>b</sup> (feet)			
	Greater than 3 to 5	Greater than 5 to 100	Greater than 100 to 500	Greater than 500
Greater than or equal to $10^{-3}$	35	35	35	25
Less than $10^{-3}$ to $10^{-5}$	35	25	15	15
Less than $10^{-5}$ to $10^{-7}$	15	15	5	5
Less than $10^{-7}$	5	5	1	1

<sup>a</sup>If depth to aquifer is 10 feet or less or if, for the interval being evaluated, all layers that underlie a portion of the sources at the site are karst, assign a value of 35.

<sup>b</sup>Consider only layers at least 3 feet thick. Do not consider layers or portions of layers within the first 10 feet of the depth to the aquifer.

National Water Summary - 1984  
U.S.G.S. Water Supply Paper 2275



SI TABLE 6 (From HRS TABLE 3-12): VALUES FOR POTENTIAL CONTAMINATION GROUND WATER  
TARGET POPULATIONS (continued)

SI Table 6b: Karst Aquifers

Distance from Site	Pop.	Nearest Well (choose highest)	Population Served by Wells within Distance Category												Pop. Value	Ref.
			1 to 10	11 to 30	31 to 100	101 to 300	301 to 1000	1001 to 3000	3001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	1,000,000 to 3,000,000		
0 to $\frac{1}{4}$ mile		20	4	17	53	164	522	1,633	5,214	16,325	52,137	163,246	521,360	1,632,455		
$> \frac{1}{4}$ to $\frac{1}{2}$ mile		20	2	11	33	102	324	1,013	3,233	10,122	32,325	101,213	323,243	1,012,122		
$> \frac{1}{2}$ to 1 mile		20	2	9	26	82	261	817	2,607	8,163	26,068	81,623	260,680	816,227		
$> 1$ to 2 miles		20	2	9	26	82	261	817	2,607	8,163	26,068	81,623	260,680	816,227		
$> 2$ to 3 miles		20	2	9	26	82	261	817	2,607	8,163	26,068	81,623	260,680	816,227		
$> 3$ to 4 miles		20	2	9	26	82	261	817	2,607	8,163	26,068	81,623	260,680	816,227		
Nearest Well = <input type="text"/>															Sum = <input type="text"/>	

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## GROUND WATER PATHWAY WORKSHEET (concluded)

WASTE CHARACTERISTICS	Score	Data Type	Does not Apply																						
8. If any Actual Contamination Targets exist for the aquifer or overlying aquifers, assign the calculated hazardous waste quantity score or a score of 100, whichever is greater; if no Actual Contamination Targets exist, assign the hazardous waste quantity score calculated for sources available to migrate to ground water.	10																								
9. Assign the highest ground water toxicity/mobility value from SI Table 3 or 4.	10,000																								
10. Multiply the ground water toxicity/mobility and hazardous waste quantity scores. Assign the Waste Characteristics score from the table below: (from HRS Table 2-7)																									
<table border="1"> <thead> <tr> <th>Product</th> <th>WC Score</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0</td> </tr> <tr> <td>&gt;0 to &lt;10</td> <td>1</td> </tr> <tr> <td>10 to &lt;100</td> <td>2</td> </tr> <tr> <td>100 to &lt;1,000</td> <td>3</td> </tr> <tr> <td>1,000 to &lt;10,000</td> <td>6</td> </tr> <tr> <td>10,000 to &lt;1E + 05</td> <td>10</td> </tr> <tr> <td>1E + 05 to &lt;1E + 06</td> <td>18</td> </tr> <tr> <td>1E + 06 to &lt;1E + 07</td> <td>32</td> </tr> <tr> <td>1E + 07 to &lt;1E + 08</td> <td>56</td> </tr> <tr> <td>1E + 08 or greater</td> <td>100</td> </tr> </tbody> </table>	Product	WC Score	0	0	>0 to <10	1	10 to <100	2	100 to <1,000	3	1,000 to <10,000	6	10,000 to <1E + 05	10	1E + 05 to <1E + 06	18	1E + 06 to <1E + 07	32	1E + 07 to <1E + 08	56	1E + 08 or greater	100			
Product	WC Score																								
0	0																								
>0 to <10	1																								
10 to <100	2																								
100 to <1,000	3																								
1,000 to <10,000	6																								
10,000 to <1E + 05	10																								
1E + 05 to <1E + 06	18																								
1E + 06 to <1E + 07	32																								
1E + 07 to <1E + 08	56																								
1E + 08 or greater	100																								
WC =	18																								

Multiply LR by T and by WC. Divide the product by 82,500 to obtain the ground water pathway score for each aquifer. Select the highest aquifer score. If the pathway score is greater than 100, assign 100.

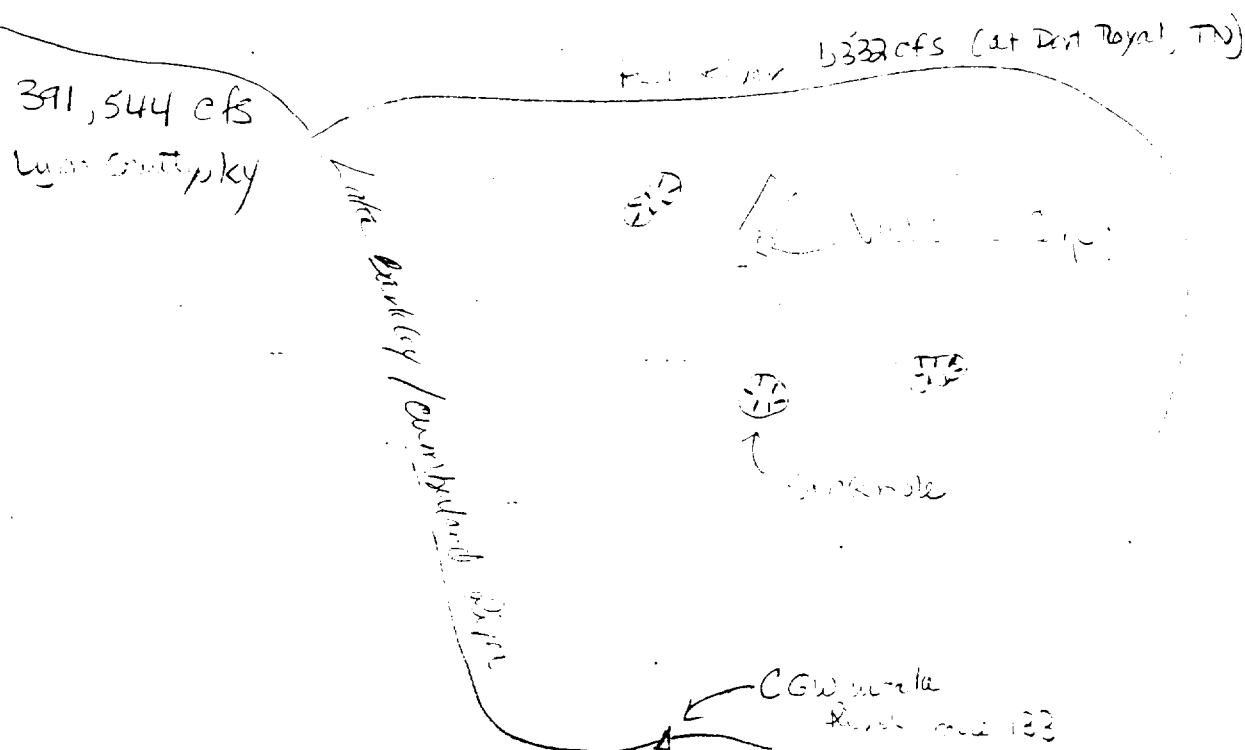
GROUND WATER PATHWAY SCORE:

$$\frac{400 \times 5 \times 18}{82,500}$$

0.43  
(Maximum of 100)

Label all surface water bodies. Include runoff route and drainage direction, probable point of entry, and 15-mile target distance limit. Mark sample locations, intakes, fisheries, and sensitive environments. Indicate flow directions, tidal influence, and rate.

Negative  
- 100%  
- 100%  
- 100%  
- 100%  
- 100%  
- 100%  
- 100%  
- 100%  
- 100%  
- 100%



NO Samples collected -  
no observed release

SI TABLE 7: SURFACE WATER OBSERVED RELEASE SUBSTANCES

[illegible]

SI TABLE 8: SURFACE WATER DRINKING WATER ACTUAL CONTAMINATION TARGETS

Intake ID: \_\_\_\_\_ Sample Type \_\_\_\_\_ Level I \_\_\_\_\_ Level II \_\_\_\_\_ Population Served \_\_\_\_\_ References \_\_\_\_\_

Sample ID	Hazardous Substance	Conc. (µg/l.)	Benchmark Conc. (MCL or MCLG)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RID	% of RID
Highest Percent					Sum of Percents		Sum of Percents	

Intake ID: \_\_\_\_\_ Sample Type \_\_\_\_\_ Level I \_\_\_\_\_ Level II \_\_\_\_\_ Population Served \_\_\_\_\_ References \_\_\_\_\_

Sample ID	Hazardous Substance	Conc. (µg/L)	Benchmark Conc. (MCL or MCL G)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RfD	% of RfD
Highest Percent					Sum of Percents		Sum of Percents	

## SURFACE WATER PATHWAY

### Surface Water Observed Release Substances Summary Table

On SI Table 7, list the hazardous substances detected in surface water samples for the watershed, which can be attributed to the site. Include only those substances in observed releases (direct observation) or with concentration levels significantly above background levels. Obtain toxicity, persistence, bioaccumulation potential, and ecotoxicity values from SCDM. Enter the highest toxicity/persistence, toxicity/persistence/bioaccumulation, and ecotoxicity/persistence/ecobioaccumulation values in the spaces provided.

- TP = Toxicity x Persistence
- TPB = TP x bioaccumulation
- ETPB = EP x bioaccumulation (EP = ecotoxicity x persistence)

### Drinking Water Actual Contamination Targets Summary Table

For an observed release at or beyond a drinking water intake, on SI Table 8 enter each hazardous substance by sample ID and the detected concentration. For surface water sediment samples detecting a hazardous substance at or beyond an intake, evaluate the intake as Level II contamination. Obtain benchmark, cancer risk, and reference dose concentrations for each substance from SCDM. For MCL and MCLG benchmarks, determine the highest percentage of benchmark obtained for any substance. For cancer risk and reference dose, sum the percentages of the substances listed. If benchmark, cancer risk, or reference dose concentrations are not available for a particular substance, enter N/A for the percentage. If the highest benchmark percentage or the percentage sum calculated for cancer risk or reference dose equals or exceeds 100%, evaluate the population served by the intake as a Level I target. If the percentages are less than 100% or all are N/A, evaluate the population served by the intake as a Level II target.

# **SURFACE WATER PATHWAY LIKELIHOOD OF RELEASE AND DRINKING WATER THREAT WORKSHEET**

## **LIKELIHOOD OF RELEASE- OVERLAND/FLOOD MIGRATION**

	Score	Data Type	Refs
1. OBSERVED RELEASE: If sampling data or direct observation support a release to surface water in the watershed, assign a score of 550. Record observed release substances on SI Table 7.			
2. POTENTIAL TO RELEASE: Distance to surface water: _____ (feet) If sampling data do not support a release to surface water in the watershed, use the table below to assign a score from the table below based on distance to surface water and flood frequency.			

Distance to surface water <2500 feet	500
Distance to surface water >2500 feet, and:	
Site in annual or 10-yr floodplain	500
Site in 100-yr floodplain	400
Site in 500-yr floodplain	300
Site outside 500-yr floodplain	100

Optionally, evaluate surface water potential to release according to HRS Section 4.1.2.1.2

LR =

## **LIKELIHOOD OF RELEASE GROUND WATER TO SURFACE WATER MIGRATION**

	Score	Data Type	Refs
1. OBSERVED RELEASE: If sampling data or direct observation support a release to surface water in the watershed, assign a score of 550. Record observed release substances on SI Table 7.			
NOTE: Evaluate ground water to surface water migration only for a surface water body that meets all of the following conditions:			
1) A portion of the surface water is within 1 mile of site sources having a containment factor greater than 0.			
2) No aquifer discontinuity is established between the source and the above portion of the surface water body.			
3) The top of the uppermost aquifer is at or above the bottom of the surface water.			
Elevation of top of uppermost aquifer <u>30</u>			
Elevation of bottom of surface water body <u>390</u>			
2. POTENTIAL TO RELEASE: Use the ground water potential to release. Optionally, evaluate surface water potential to release according to HRS Section 3.1.2.	440	H	See pgs 6

LR =

CEC...  
 To...  
 from the...

# **SURFACE WATER PATHWAY LIKELIHOOD OF RELEASE AND DRINKING WATER THREAT WORKSHEET (CONTINUED)**

DRINKING WATER THREAT TARGETS	Score	Data Type	Refs																
<p>Record the water body type, flow, and number of people served by each drinking water intake within the target distance limit in the watershed. If there is no drinking water intake within the target distance limit, assign 0 to factors 3, 4, and 5.</p> <table border="1"> <thead> <tr> <th>Intake Name</th> <th>Water Body Type</th> <th>Flow</th> <th>People Served</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table> <p>Are any intakes part of a blended system? Yes _____ No _____            If yes, attach a page to show apportionment calculations.</p> <p>3. ACTUAL CONTAMINATION TARGETS: If analytical evidence indicates a drinking water intake has been exposed to a hazardous substance from the site, list the intake name and evaluate the factor score for the drinking water population (SI Table 8).</p> <p>_____</p> <p>Level I: _____ people x 10 = _____            Level II: _____ people x 1 = _____ <b>Total =</b> 0</p>	Intake Name	Water Body Type	Flow	People Served													0		SI Table 8
Intake Name	Water Body Type	Flow	People Served																
<p>4. POTENTIAL CONTAMINATION TARGETS: Determine the number of people served by drinking water intakes for the watershed that have not been exposed to a hazardous substance from the site. Assign the population values from SI Table 9. Sum the values and multiply by 0.1.</p>	0																		
<p>5. NEAREST INTAKE: Assign a score of 50 for any Level I Actual Contamination Drinking Water Targets for the watershed. Assign a score of 45 if there are Level II targets for the watershed, but no Level I targets. If no Actual Contamination Drinking Water Targets exist, assign a score for the intake nearest the PPE from SI Table 9. If no drinking water intakes exist, assign 0.</p>	0																		
<p>6. RESOURCES: Assign a score of 5 if one or more surface water resource applies; assign 0 if none applies.</p> <ul style="list-style-type: none"> <li>• Irrigation (5 acre minimum) of commercial food crops or commercial forage crops</li> <li>• Watering of commercial livestock</li> <li>• Ingredient in commercial food preparation</li> <li>• Major or designated water recreation area, excluding drinking water use</li> </ul>	5	1	Under TN 4/20/2011 190																
SUM OF TARGETS T=	5																		

Site Name: Vulcan Corporation  
Location: Clarksville, Montgomery County, Tennessee

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GROUND WATER TO SURFACE WATER MIGRATION COMPONENT SCORESHEET

Factor Categories and Factors

<u>Likelihood of Release to an Aquifer</u>	<u>Maximum Value</u>	<u>Value Assigned</u>	
1. Observed Release	550	<u>0</u>	
2. Potential to Release			
2a. Containment	10	<u>10</u>	
2b. Net Precipitation	10	<u>6</u>	10(6+3+35)
2c. Depth to Aquifer	5	<u>3</u>	10(44)
2d. Travel Time	35	<u>35</u>	440
2e. Potential to Release (lines 2a x [2b + 2c + 2d])	500	<u>440</u>	
3. Likelihood of Release (higher of lines 1 and 2e)	550		<u>440</u>
<u>Waste Characteristics</u>			
4. Toxicity/Mobility/Persistence	2	<u>        </u>	
5. Hazardous Waste Quantity	2	<u>        </u>	
6. Waste Characteristics	100	<u>        </u>	
<u>Targets</u>			
7. Nearest Intake	50	<u>        </u>	
8. Population		<u>        </u>	
8a. Level I Concentrations	b	<u>        </u>	
8b. Level II Concentrations	b	<u>        </u>	
8c. Potential Contamination	b	<u>        </u>	
8d. Population (lines 8a + 8b + 8c)	b	<u>        </u>	
9. Resources	5	<u>        </u>	
10. Targets (lines 7 + 8d + 9)	b	<u>        </u>	
<u>Drinking Water Threat Score</u>			
11. Drinking Water Threat Score ([lines 3 x 6 x 10]/82,500, subject to a maximum of 100)	100	<u>        </u>	

note 3 See pages C-15 B - C-15 F for the gw → SW  
potential to release



The Cincinnati Gas and Electric Company is the only one known to be discharging from the station.

SI TABLE 9 (From HRS Table 4-14): DILUTION-WEIGHTED POPULATION VALUES FOR POTENTIAL CONTAMINATION FOR SURFACE WATER MIGRATION PATHWAY

Type of Surface Water Body	Pop.	Nearest Intake	Number of people									Pop. Value
			0	1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	
Minimal Stream (<10 cfs)		20	0	4	17	53	164	522	1,633	5,214	16,325	
Small to moderate stream (10 to 100 cfs)		2	0	0.4	2	5	16	52	163	521	1,633	
Moderate to large stream (> 100 to 1,000 cfs)		0	0	0.04	0.2	0.5	2	5	16	52	163	
Large Stream to river (>1,000 to 10,000 cfs)		0	0	0.004	0.02	0.05	0.2	0.5	2	5	16	
Large River (> 10,000 to 100,000 cfs)		0	0	0	0.002	0.005	0.02	0.05	0.2	0.5	$\frac{2}{16}$	
Very Large River (>100,000 cfs)		0	0	0	0	0.001	0.002	0.005	0.02	0.05	0.2	
Shallow ocean zone or Great Lake (depth < 20 feet)		0	0	0	0.002	0.005	0.02	0.05	0.2	0.5	2	
Moderate ocean zone or Great Lake (Depth 20 to 200 feet)		0	0	0	0	0.001	0.002	0.005	0.02	0.05	0.2	
Deep ocean zone or Great Lake (depth > 200 feet)		0	0	0	0	0	0.001	0.003	0.008	0.03	0.08	
3-mile mixing zone in quiet flowing river ( $\geq 10$ cfs)		10	0	2	9	26	82	261	817	2,607	8,163	
Nearest Intake =			Sum =									

References \_\_\_\_\_

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## SURFACE WATER PATHWAY

### Human Food Chain Actual Contamination Targets Summary Table

On SI Table 10, list the hazardous substances detected in sediment, aqueous, sessile benthic organism tissue, or fish tissue samples (taken from fish caught within the boundaries of the observed release) by sample ID and concentration. Evaluate fisheries within the boundaries of observed releases detected by sediment or aqueous samples as Level II, if at least one observed release substance has a bioaccumulation potential factor value of 500 or greater (see SI Table 7). Obtain benchmark, cancer risk, and reference dose concentrations from SCDM. For FDAAL benchmarks, determine the highest percentage of benchmark obtained for any substance. For cancer risk and reference dose, sum the percentages for the substances listed. If benchmark, cancer risk, or reference dose concentrations are not available for a particular substance, enter N/A for the percentage. If the highest benchmark percentage sum calculated for cancer risk or reference dose equals or exceeds 100%, evaluate this portion of the fishery as subject to Level I concentrations. If the percentages are less than 100% or all are N/A, evaluate the fishery as a Level II target.

### Sensitive Environment Actual Contamination Targets Summary Table

On SI Table 11, list each hazardous substance detected in aqueous or sediment samples at or beyond wetlands or a surface water sensitive environment by sample ID. Record the concentration. If contaminated sediments or tissues are detected at or beyond a sensitive environment, evaluate the sensitive environment as Level II. Obtain benchmark concentrations from SCDM. For AWQC/AALAC benchmarks, determine the highest percentage of benchmark of the substances detected in aqueous samples. If benchmark concentrations are not available for a particular substance, enter N/A for the percentage. If the highest benchmark percentage equals or exceeds 100%, evaluate that part of the sensitive environment subject to Level I concentrations. If the percentage is less than 100%, or all are N/A, evaluate the sensitive environment as Level II.

unlike not a population  
 expected by a discharge from  
 the facility.

TABLE 4-14 (Concluded)

Type of Surface Water Body <sup>b</sup>	Number of People				
	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	1,000,001 to 3,000,000	3,000,001 to 10,000,000
Minimal stream ( $< 10$ cfs)	52,137	163,246	521,360	1,632,455	5,213,590
Small to moderate stream (10 to 100 cfs)	5,214	16,325	52,136	163,245	521,359
Moderate to large stream ( $> 100$ to 1,000 cfs)	521	1,633	5,214	16,325	52,136
Large stream to river ( $> 1,000$ to 10,000 cfs)	52	163	521	1,632	5,214
Large river ( $> 10,000$ to 100,000 cfs)	5	16	52	163	521
Very large river ( $> 100,000$ cfs)	0.5	2	5	16	52
Shallow ocean zone or Great Lake (depth $< 20$ feet)	5	16	52	163	521
Moderate ocean zone or Great Lake (depth 20 to 200 feet)	0.5	2	5	16	52
Deep zone or Great Lake (depth $> 200$ feet)	0.3	1	3	8	26
3-mile mixing zone in quiet flowing river ( $\geq 10$ cfs)	26,068	81,623	260,680	816,227	2,606,795

<sup>a</sup>Round the number of people to nearest integer. Do not round the assigned dilution-weighted population value to nearest integer.

<sup>b</sup>Treat each lake as a separate type of water body and assign it a dilution-weighted population value using the surface water body type with the same dilution weight from Table 4-13 as the lake. If drinking water is withdrawn from coastal tidal water or the ocean, assign a dilution-weighted population value to it using the surface water body type with the same dilution weight from Table 4-13 as the coastal tidal water or the ocean zone.

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 P.C.-25a

COASTAL TIDAL WATER

# SI TABLE 10: HUMAN FOOD CHAIN ACTUAL CONTAMINATION TARGETS FOR WATERSHED

Fishery ID: \_\_\_\_\_ Sample Type \_\_\_\_\_ Level I \_\_\_\_\_ Level II \_\_\_\_\_ References \_\_\_\_\_

Sample ID	Hazardous Substance	Conc. (mg/kg)	Benchmark Concentration (FDAAL)	% of Benchmark	Cancer Risk Concentration	% of Cancer Risk Concentration	RID	% of RID
Highest Percent					Sum of Percents		Sum of Percents	

# SI TABLE 11: SENSITIVE ENVIRONMENT ACTUAL CONTAMINATION TARGETS FOR WATERSHED

Environment ID: \_\_\_\_\_ Sample Type \_\_\_\_\_ Level I \_\_\_\_\_ Level II \_\_\_\_\_ Environment Value \_\_\_\_\_

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Sample ID	Hazardous Substance	Conc.. (µg/L)	Benchmark Concentration (AWQC or AALAC)	% of Benchmark	References
Highest Percent					

Environment ID: \_\_\_\_\_ Sample Type \_\_\_\_\_ Level I \_\_\_\_\_ Level II \_\_\_\_\_ Environment Value \_\_\_\_\_

Sample ID	Hazardous Substance	Conc.. (µg/L)	Benchmark Concentration (AWQC or AALAC)	% of Benchmark	References
Highest Percent					

# SURFACE WATER PATHWAY (continued) HUMAN FOOD CHAIN THREAT WORKSHEET

HUMAN FOOD CHAIN THREAT TARGETS	Score	Data Type	Refs										
<p>Record the water body type and flow for each fishery within the target distance limit. If there is no fishery within the target distance limit, assign a score of 0 at the bottom of this page.</p>													
<p>Fishery Name <u>Wen</u> Water Body <u>Lower</u> Flow <u>1,332</u> cfs</p> <p>Species _____ Production _____ lbs/yr</p> <p>Species _____ Production _____ lbs/yr</p> <p>Fishery Name _____ Water Body _____ Flow <u>31,544</u> cfs</p> <p>Species _____ Production _____ lbs/yr</p> <p>Species _____ Production _____ lbs/yr</p> <p>Fishery Name _____ Water Body _____ Flow _____ cfs</p> <p>Species _____ Production _____ lbs/yr</p> <p>Species _____ Production _____ lbs/yr</p>		H	TN WATER BODIES										
<p>FOOD CHAIN INDIVIDUAL</p> <p>7. ACTUAL CONTAMINATION FISHERIES:</p> <p>If analytical evidence indicates that a fishery has been exposed to a hazardous substance with a bioaccumulation factor greater than or equal to 500 (SI Table 10), assign a score of 50 if there is a Level I fishery. Assign 45 if there is a Level II fishery, but no Level I fishery.</p> <p>8. POTENTIAL CONTAMINATION FISHERIES:</p> <p>If there is a release of a substance with a bioaccumulation factor greater than or equal to 500 to a watershed containing fisheries within the target distance limit, but there are no Level I or Level II fisheries, assign a score of 20.</p> <p>If there is no observed release to the watershed, assign a value for potential contamination fisheries from the table below using the lowest flow at all fisheries within the target distance limit:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Lowest Flow</th> <th>FCI Value</th> </tr> </thead> <tbody> <tr> <td>&lt;10 cfs</td> <td>20</td> </tr> <tr> <td>10 to 100 cfs</td> <td>2</td> </tr> <tr> <td>&gt;100 cfs, coastal tidal waters, oceans, or Great Lakes</td> <td>0</td> </tr> <tr> <td>3-mile mixing zone in quiet flowing river</td> <td>10</td> </tr> </tbody> </table> <p style="text-align: right;">FCI Value =</p>				Lowest Flow	FCI Value	<10 cfs	20	10 to 100 cfs	2	>100 cfs, coastal tidal waters, oceans, or Great Lakes	0	3-mile mixing zone in quiet flowing river	10
Lowest Flow	FCI Value												
<10 cfs	20												
10 to 100 cfs	2												
>100 cfs, coastal tidal waters, oceans, or Great Lakes	0												
3-mile mixing zone in quiet flowing river	10												
SUM OF TARGETS T =													

# **SURFACE WATER PATHWAY (continued) ENVIRONMENTAL THREAT WORKSHEET**

When measuring length of wetlands that are located on both sides of a surface water body, sum both frontage lengths. For a sensitive environment that is more than one type, assign a value for each type.

## **ENVIRONMENTAL THREAT TARGETS**

Score Data Type Refs

Record the water body type and flow for each surface water sensitive environment within the target distance (see SI Table 12). If there is no sensitive environment within the target distance limit, assign a score of 0 at the bottom of the page.

Environment Name	Water Body Type	Flow
		391.544 cfs
		cfs
		cfs
		cfs
		cfs

9. ACTUAL CONTAMINATION SENSITIVE ENVIRONMENTS: If sampling data or direct observation indicate any sensitive environment has been exposed to a hazardous substance from the site, record this information on SI Table 11, and assign a factor value for the environment (SI Tables 13 and 14).

Environment Name	Environment Type and Value (SI Tables 13 & 14)	Multiplier (10 for Level I, 1 for Level II)	Product
		x	=
		x	=
		x	=
		x	=

Sum =

10. POTENTIAL CONTAMINATION SENSITIVE ENVIRONMENTS:

Flow	Dilution Weight (SI Table 12)	Environment Type and Value (SI Tables 13 & 14)	Pot. Cont.	Product
cfs	0.00001	x	0.1	$7.5 \times 10^{-5}$
cfs	0.00001	x	0.1	$7.5 \times 10^{-5}$
cfs	0.00001	x	0.1	$7.5 \times 10^{-5}$
cfs	0.00001	x	0.1	$7.5 \times 10^{-5}$
cfs		x	0.1	

Sum =

T = 0.00

Recorded

**SI TABLE 13 (HRS TABLE 4-23):  
SURFACE WATER AND AIR SENSITIVE ENVIRONMENTS VALUES**

<b><i>SENSITIVE ENVIRONMENT</i></b>	<b><i>ASSIGNED VALUE</i></b>
Critical habitat for Federal designated endangered or threatened species Marine Sanctuary National Park Designated Federal Wilderness Area Ecologically important areas identified under the Coastal Zone Wilderness Act Sensitive Areas identified under the National Estuary Program or Near Coastal Water Program of the Clean Water Act Critical Areas identified under the Clean Lakes Program of the Clean Water Act (subareas in lakes or entire small lakes) National Monument (air pathway only) National Seashore Recreation Area National Lakeshore Recreation Area	100
Habitat known to be used by Federal designated or proposed endangered or threatened species National Preserve National or State Wildlife Refuge Unit of Coastal Barrier Resources System Coastal Barrier (undeveloped) Federal land designated for the protection of natural ecosystems Administratively Proposed Federal Wilderness Area Scawning areas critical for the maintenance of fish/shellfish species within a river system, bay, or estuary Migratory pathways and feeding areas critical for the maintenance of anadromous fish species within river reaches or areas in lakes or coastal tidal waters in which the fish spend extended periods of time Terrestrial areas utilized by large or dense aggregations of vertebrate animals (semi-aquatic foragers) for breeding National river reach designated as recreational	75
Habitat known to be used by State designated endangered or threatened species Habitat known to be used by a species under review as to its Federal endangered or threatened status Coastal Barrier (partially developed) Federally designated Scenic or Wild River	50
State land designated for wildlife or game management State designated Scenic or Wild River State designated Natural Area Particular areas, relatively small in size, important to maintenance of unique biotic communities	25
State designated areas for the protection of maintenance of aquatic life under the Clean Water Act:	5
Wetlands                      See SI Table 14 (Surface Water Pathway) or SI Table 23 (Air Pathway)	

**SI TABLE 14 (HRS TABLE 4-24): SURFACE WATER  
WETLANDS FRONTAGE VALUES**

<b>Total Length of Wetlands</b>	<b>Assigned Value</b>
Less than 0.1 mile	0
0.1 to 1 mile	25
Greater than 1 to 2 miles	50
Greater than 2 to 3 miles	75
Greater than 3 to 4 miles	100
Greater than 4 to 8 miles	150
Greater than 8 to 12 miles	250
Greater than 12 to 16 miles	350
Greater than 16 to 20 miles	450
Greater than 20 miles	500

**SI TABLE 12 (HRS Table 4-13):  
SURFACE WATER DILUTION WEIGHTS**

Type of Surface Water Body		Assigned Dilution Weight
Descriptor	Flow Characteristics	
Minimal stream	< 10 cfs	1
Small to moderate stream	10 to 100 cfs	0.1
Moderate to large stream	> 100 to 1,000 cfs	0.01
Large stream to river	> 1,000 to 10,000 cfs	0.001
Large river	> 10,000 to 100,000 cfs	0.0001
Very large river	> 100,000 cfs	0.00001
Coastal tidal waters	Flow not applicable; depth not applicable	0.001- 0.00001
Shallow ocean zone or Great Lake	Flow not applicable; depth less than 20 feet	0.001- 0.00001
Moderate depth ocean zone or Great Lake	Flow not applicable; depth 20 to 200 feet	0.0001- 0.000001
Deep ocean zone or Great Lake	Flow not applicable; depth greater than 200 feet	0.0000005
3-mile mixing zone in quiet flowing river	10 cfs or greater	0.5

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**SURFACE WATER PATHWAY (concluded)**  
**WASTE CHARACTERISTICS, THREAT, AND PATHWAY SCORE SUMMARY**

WASTE CHARACTERISTICS				Score
<del>11.</del> If an Actual Contamination Target (drinking water, human food chain, or environmental threat) exists for the watershed, assign the calculated hazardous waste quantity score, or a score of 100, whichever is greater.				
<del>12.</del> Assign the highest value from SI Table 7 (observed release) or SI Table 3 (no observed release) for the hazardous substance waste characterization factors below. Multiply each by the surface water hazardous waste quantity score and determine the waste characteristics score for each threat.				
	Substance Value	HWQ	Product	WC Score (from Table) (Maximum of 100)-
Drinking Water Threat Toxicity/Persistence	10,000 x	10 -	10 <sup>5</sup>	12 <small>max = 100</small>
Food Chain Threat Toxicity/Persistence Bioaccumulation	5x10 <sup>2</sup> x	10 -	5x10 <sup>9</sup>	120 <small>max = 1000</small>
Environmental Threat Ecotoxicity/Persistence/ Ecobioaccumulation	5 x 10 <sup>2</sup> x	10 -	5x10 <sup>9</sup>	120 <small>max = 1000</small>

Product	WC Score
0	0
>0 to <10	1
10 to <100	2
100 to <1,000	3
1,000 to <10,000	6
10,000 to <1E + 05	10
1E + 05 to <1E + 06	18
1E + 06 to <1E + 07	32
1E + 07 to <1E + 08	56
1E + 08 to <1E + 09	100
1E + 09 to <1E + 10	180
1E + 10 to <1E + 11	320
1E + 11 to <1E + 12	560
1E + 12 or greater	1000

**SURFACE WATER PATHWAY THREAT SCORES**

Threat	Likelihood of Release (LR) Score	Targets (T) Score	Pathway Waste Characteristics (WC) Score (determined above)	Threat Score $\frac{LR \times T \times WC}{82,500}$
Drinking Water	440	5	12	(maximum of 100) 0.48
Human Food Chain	440	0	120	(maximum of 100) 0
Environmental	440	0	120	(maximum of 60) 0

**SURFACE WATER PATHWAY SCORE**  
 (Drinking Water Threat + Human Food Chain Threat + Environmental Threat)

(maximum of 100)

0.48

## SOIL EXPOSURE PATHWAY

If there is no observed contamination (e.g., ground water plume with no known surface source), do not evaluate the soil exposure pathway. Discuss evidence for no soil exposure pathway.

### Soil Exposure Resident Population Targets Summary

For each property (duplicate page 35 as necessary):

If there is an area of observed contamination on the property and within 200 feet of a residence, school, or day care center, enter on Table 15 each hazardous substance by sample ID. Record the detected concentration. Obtain cancer risk, and reference dose concentrations from SCDM. Sum the cancer risk and reference dose percentages for the substances listed. If cancer risk or reference dose concentrations are not available for a particular substance, enter N/A for the percentage. If the percentage sum calculated for cancer risk or reference dose equals or exceeds 100%, evaluate the residents and students as Level I. If both percentages are less than 100% or all are N/A, evaluate the targets as Level II.

no sample collected-  
 no resident population  
 however observed release will be  
 stored in mass care situation

SI TABLE 15: SOIL EXPOSURE RESIDENT POPULATION TARGETS

Residence ID: \_\_\_\_\_ Level I \_\_\_\_\_ Level II \_\_\_\_\_ Population \_\_\_\_\_

Sample ID	Hazardous Substance	Conc. (mg/kg)	Cancer Risk Concentration	% of Cancer Risk Conc.	RfD	% of RfD	Toxicity Value	References
Highest Percent					Sum of Percents		Sum of Percents	

Residence ID: \_\_\_\_\_ Level I \_\_\_\_\_ Level II \_\_\_\_\_ Population \_\_\_\_\_

Sample ID	Hazardous Substance	Conc. (mg/kg)	Cancer Risk Concentration	% of Cancer Risk Conc.	RfD	% of RfD	Toxicity Value	References
Highest Percent					Sum of Percents		Sum of Percents	

Residence ID: \_\_\_\_\_ Level I \_\_\_\_\_ Level II \_\_\_\_\_ Population \_\_\_\_\_

Sample ID	Hazardous Substance	Conc. (mg/kg)	Cancer Risk Concentration	% of Cancer Risk Conc.	RfD	% of RfD	Toxicity Value	References
Highest Percent					Sum of Percents		Sum of Percents	

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10/1/2001

\* no sample data  
 collected for the groundwater  
 sampling location. NO SAMPLE DATA  
 was collected. NO SAMPLE DATA  
 was collected for the groundwater.

## SOIL EXPOSURE PATHWAY WORKSHEET RESIDENT POPULATION THREAT

LIKELIHOOD OF EXPOSURE	Score	Data Type	Refs
1. OBSERVED CONTAMINATION: If evidence indicates presence of observed contamination (depth of 2 feet or less), assign a score of 550; otherwise, assign a 0. Note that a likelihood of exposure score of 0 results in a soil exposure pathway score of 0.	*	-	

LE = 550

### TARGETS

2. RESIDENT POPULATION: Determine the number of people living or attending school or day care on a property with an area of observed contamination and whose residence, school, or day care center, respectively, is on or within 200 feet of the area of observed contamination. Level I: _____ people x 10 = _____ Level II: _____ people x 1 = _____ <div style="text-align: right;">Sum =</div>	0	-	no sample data												
3. RESIDENT INDIVIDUAL: Assign a score of 50 if any Level I resident population exists. Assign a score of 45 if there are Level II targets but no Level I targets. If no resident population exists (i.e., no Level I or Level II targets), assign 0 (HRS Section 5.1.3).	0	-	no sample data												
4. WORKERS: Assign a score from the table below for the total number of workers at the site and nearby facilities with areas of observed contamination associated with the site. <table border="1" style="margin: 10px auto; width: 80%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Number of Workers</th><th style="text-align: center;">Score</th></tr> </thead> <tbody> <tr> <td style="text-align: center;">0</td><td style="text-align: center;">0</td></tr> <tr> <td style="text-align: center;">1 to 100</td><td style="text-align: center;">5</td></tr> <tr> <td style="text-align: center;">101 to 1,000 (200 workers)</td><td style="text-align: center;">10</td></tr> <tr> <td style="text-align: center;">&gt;1,000</td><td style="text-align: center;">15</td></tr> </tbody> </table>	Number of Workers	Score	0	0	1 to 100	5	101 to 1,000 (200 workers)	10	>1,000	15	10	H	present note 5/23/14 change sample		
Number of Workers	Score														
0	0														
1 to 100	5														
101 to 1,000 (200 workers)	10														
>1,000	15														
5. TERRESTRIAL SENSITIVE ENVIRONMENTS: Assign a value for each terrestrial sensitive environment (SI Table 16) in an area of observed contamination. <table border="1" style="margin: 10px auto; width: 80%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Terrestrial Sensitive Environment Type</th><th style="text-align: center;">Value</th></tr> </thead> <tbody> <tr><td> </td><td style="text-align: center;"> </td></tr> <tr><td> </td><td style="text-align: center;"> </td></tr> <tr><td> </td><td style="text-align: center;"> </td></tr> <tr><td> </td><td style="text-align: center;"> </td></tr> <tr><td> </td><td style="text-align: center;"> </td></tr> </tbody> </table> <div style="text-align: right;">Sum =</div>	Terrestrial Sensitive Environment Type	Value											0	-	no sample data
Terrestrial Sensitive Environment Type	Value														
6. RESOURCES: Assign a score of 5 if any one or more of the following resources is present on an area of observed contamination at the site; assign 0 if none applies. <ul style="list-style-type: none"> <li>• Commercial agriculture</li> <li>• Commercial silviculture</li> <li>• Commercial livestock production or commercial livestock grazing</li> </ul>	0	-	no sample data												

Total of Targets T= 10

SI TABLE 16 (HRS TABLE 5-5): SOIL EXPOSURE PATHWAY  
TERRESTRIAL SENSITIVE ENVIRONMENT VALUES

TERRESTRIAL SENSITIVE ENVIRONMENT	ASSIGNED VALUE
Terrestrial critical habitat for Federal designated endangered or threatened species National Park Designated Federal Wilderness Area National Monument	100
Terrestrial habitat known to be used by Federal designated or proposed threatened or endangered species National Preserve (terrestrial) National or State terrestrial Wildlife Refuge Federal land designated for protection of natural ecosystems Administratively proposed Federal Wilderness Area Terrestrial areas utilized by large or dense aggregations of animals (vertebrate species) for breeding	75
Terrestrial habitat used by State designated endangered or threatened species Terrestrial habitat used by species under review for Federal designated endangered or threatened status	50
State lands designated for wildlife or game management State designated Natural Areas Particular areas, relatively small in size, important to maintenance of unique biotic communities	25

# **SOIL EXPOSURE PATHWAY WORKSHEET NEARBY POPULATION THREAT**

LIKELIHOOD OF EXPOSURE		Score	Data Type	Ref.
7. Attractiveness/Accessibility (from SI Table 17 or HRS Table 5-6)	Value <u>10</u>	Assigned to category 10 based on SI Table 17	-	SI 17
Area of Contamination (from SI Table 18 or HRS Table 5-7)	Value <u>100</u>			
Likelihood of Exposure (from SI Table 19 or HRS Table 5-8)				H

note: if there is no area of  
observed contamination,  
LE = 0.

LE = 125

TARGETS		Score	Data Type	Ref.
8. Assign a score of 0 if Level I or Level II resident individual has been evaluated or if no individuals live within 1/4 mile travel distance of an area of observed contamination. Assign a score of 1 if nearby population is within 1/4 mile travel distance and no Level I or Level II resident population has been evaluated.		1	H	Topo GMS
9. Determine the population within 1 mile travel distance that is not exposed to a hazardous substance from the site (i.e., properties that are not determined to be Level I or Level II); record the population for each distance category in SI Table 20 (HRS Table 5-10). Sum the population values and multiply by 0.1.		5	H	GMS

T = 6

SI TABLE 17 (HRS TABLE 5-6):  
ATTRACTIVENESS/ACCESSIBILITY VALUES

Area of Observed Contamination	Assigned Value
Designated recreational area	100
Regularly used for public recreation (for example, vacant lots in urban area)	75
Accessible and unique recreational area (for example, vacant lots in urban area)	75
Moderately accessible (may have some access improvements—for example, gravel road) with some public recreation use	50
Slightly accessible (for example, extremely rural area with no road improvement) with some public recreation use	25
Accessible with no public recreation use	<u>10</u>
Surrounded by maintained fence or combination of maintained fence and natural barriers	5
Physically inaccessible to public, with no evidence of public recreation use	0

Call to present "best" and "second"

SI TABLE 18 (HRS TABLE 5-7): AREA OF CONTAMINATION FACTOR VALUES

Total area of the areas of observed contamination (square feet)	Assigned Value
≤ to 5,000	5
> 5,000 to 125,000	20
> 125,000 to 250,000	40
> 250,000 to 375,000	60
> 375,000 to 500,000	80
> 500,000	<u>100</u>

600,000,000 / 100 = 6,000,000 ft<sup>2</sup>

(SI p. 7)

SI TABLE 19 (HRS TABLE 5-8): NEARBY POPULATION LIKELIHOOD OF EXPOSURE FACTOR VALUES

AREA OF CONTAMINATION FACTOR VALUE	ATTRACTIVENESS/ACCESSIBILITY FACTOR VALUE						
	100	75	50	25	10	5	0
100	500	500	375	250	125	50	0
80	500	375	250	125	50	25	0
60	375	250	125	50	25	5	0
40	250	125	50	25	5	5	0
20	125	50	25	5	5	5	0
5	50	25	5	5	5	5	0

C-40

SI TABLE 20 (HRS TABLE 5-10): DISTANCE-WEIGHTED POPULATION VALUES FOR NEARBY POPULATION THREAT

Travel Distance Category (miles)	Pop.	Number of people within the travel distance category												Pop. Value
		0	1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,001	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	
Greater than 0 to $\frac{1}{4}$	119	0	0.1	0.4	1.0	4	13	41	130	408	1,303	4,081	13,034	119
Greater than $\frac{1}{4}$ to $\frac{1}{2}$	114	0	0.05	0.2	0.7	2	7	20	65	204	652	2,041	6,517	114
Greater than $\frac{1}{2}$ to 1	6158	0	0.02	0.1	0.3	1	3	10	33	102	326	1,020	3,258	6158
Reference(s) <u>SEMS</u> Sum = <u>4000</u>														

2100 + 1900 = 4000  
L<sup>12</sup> 3



## SOIL EXPOSURE PATHWAY WORKSHEET (concluded)

### WASTE CHARACTERISTICS

10. Assign the hazardous waste quantity score calculated for soil exposure HRS Section 5-1.2.2 and HRS Table 5-2.	10																						
11. Assign the highest toxicity value for the soil exposure Pathway from SI Table 3 or 15	10,000																						
12. Multiply the toxicity and hazardous waste quantity scores. Assign the Waste Characteristics score from the table below: <table border="1" style="margin: 10px auto; width: 40%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; padding: 2px;">Product</th> <th style="text-align: left; padding: 2px;">WC Score</th> </tr> </thead> <tbody> <tr><td>0</td><td>0</td></tr> <tr><td>&gt;0 to &lt;10</td><td>1</td></tr> <tr><td>10 to &lt;100</td><td>2</td></tr> <tr><td>100 to &lt;1,000</td><td>3</td></tr> <tr><td>1,000 to &lt;10,000</td><td>6</td></tr> <tr><td>10,000 to &lt;1E + 05</td><td>10</td></tr> <tr><td>1E + 05 to &lt;1E + 06</td><td style="border: 2px solid black;">18</td></tr> <tr><td>1E + 06 to &lt;1E + 07</td><td>32</td></tr> <tr><td>1E + 07 to &lt;1E + 08</td><td>56</td></tr> <tr><td>1E + 08 or greater</td><td>100</td></tr> </tbody> </table>	Product	WC Score	0	0	>0 to <10	1	10 to <100	2	100 to <1,000	3	1,000 to <10,000	6	10,000 to <1E + 05	10	1E + 05 to <1E + 06	18	1E + 06 to <1E + 07	32	1E + 07 to <1E + 08	56	1E + 08 or greater	100	WC = 18
Product	WC Score																						
0	0																						
>0 to <10	1																						
10 to <100	2																						
100 to <1,000	3																						
1,000 to <10,000	6																						
10,000 to <1E + 05	10																						
1E + 05 to <1E + 06	18																						
1E + 06 to <1E + 07	32																						
1E + 07 to <1E + 08	56																						
1E + 08 or greater	100																						

} 105

### RESIDENT POPULATION THREAT SCORE:

(Likelihood of Exposure, Question 1;  
Targets = Sum of Questions 2, 3, 4, 5, 6)

$$\frac{550 \times 10 \times 18}{82,500}$$

1.20

### NEARBY POPULATION THREAT SCORE:

(Likelihood of Exposure, Question 7;  
Targets = Sum of Questions 8, 9)

$$\frac{125 \times 5 \times 12}{82,500}$$

0.14

### SOIL EXPOSURE PATHWAY SCORE:

Resident Population Threat + Nearby Population Threat  $\times \frac{1}{82,500}$

 1.34  
(Maximum of 100)

## AIR PATHWAY- -

### Air Pathway Observed Substances Summary Table

On SI Table 21, list the hazardous substances detected in air samples of a release from the site. Include only those substances with concentrations significantly greater than background levels. Obtain benchmark, cancer risk, and reference dose concentrations from SCDM. For NAAQS/NESHAPS benchmarks, determine the highest percentage of benchmark obtained for any substance. For cancer risk and reference dose, sum the percentages for the substances listed. If benchmark, cancer risk, or reference dose concentrations are not available for a particular substance, enter N/A for the percentage. If the highest benchmark percentage or the percentage sum calculated for cancer risk or reference dose equals or exceeds 100%, evaluate targets in the distance category from which the sample was taken and any closer distance categories as Level I. If the percentages are less than 100% or all are N/A, evaluate targets in that distance category and any closer distance categories that are not Level I as Level II.

*no air samples collected -  
no observed release*

SI TABLE 21: AIR PATHWAY OBSERVED RELEASE SUBSTANCES

Sample ID: \_\_\_\_\_ Level I \_\_\_\_\_ Level II \_\_\_\_\_ Distance from Sources (mi) \_\_\_\_\_ References \_\_\_\_\_

Hazardous Substance	Conc. ( $\mu\text{g}/\text{m}^3$ )	Gaseous Particulate	Benchmark Conc. (NAAQS or NESHAPS)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RID	% of RID
Highest Toxicity/ Mobility			Highest Percent		Sum of Percents		Sum of Percents	

Sample ID: \_\_\_\_\_ Level I \_\_\_\_\_ Level II \_\_\_\_\_ Distance from Sources (mi) \_\_\_\_\_ References \_\_\_\_\_

C-43

Hazardous Substance	Conc. ( $\mu\text{g}/\text{m}^3$ )	Toxicity/ Mobility	Benchmark Conc. (NAAQS or NESHAPS)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RID	% of RID
Highest Toxicity/ Mobility			Highest Percent		Sum of Percents		Sum of Percents	

Sample ID: \_\_\_\_\_ Level I \_\_\_\_\_ Level II \_\_\_\_\_ Distance from Sources (mi) \_\_\_\_\_ References \_\_\_\_\_

Hazardous Substance	Conc. ( $\mu\text{g}/\text{m}^3$ )	Toxicity/ Mobility	Benchmark Conc. (NAAQS or NESHAPS)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RID	% of RID
Highest Toxicity/ Mobility			Highest Percent		Sum of Percents		Sum of Percents	

# AIR PATHWAY WORKSHEET

LIKELIHOOD OF RELEASE	Score	Data Type	Refs
1. OBSERVED RELEASE: If sampling data or direct observation support a release to air, assign a score of 550. Record observed release substances on SI Table 21.	0	H	SI- 220-
2. POTENTIAL TO RELEASE: If sampling data do not support a release to air, assign a score of 500. Optionally, evaluate air migration gaseous and particulate potential to release (HRS Section 6.1.2).	500	-	SI- no sample

no sample

LR = 500

## TARGETS

3. ACTUAL CONTAMINATION POPULATION: Determine the number of people within the target distance limit subject to exposure from a release of a hazardous substance to the air.  a) Level I: _____ people x 10 = _____ b) Level II: _____ people x 1 = _____ Total =	0																						
4. POTENTIAL TARGET POPULATION: Determine the number of people within the target distance limit not subject to exposure from a release of a hazardous substance to the air, and assign the total population score from SI Table 22. Sum the values and multiply the sum by 0.1.	53	H	SI- 220- 31																				
5. NEAREST INDIVIDUAL: Assign a score of 50 if there are any Level I targets. Assign a score of 45 if there are Level II targets but no Level I targets. If no Actual Contamination Population exists, assign the Nearest Individual score from SI Table 22.	20	H	↓																				
6. ACTUAL CONTAMINATION SENSITIVE ENVIRONMENTS: Sum the sensitive environment values (SI Table 13) and wetland acreage values (SI Table 23) for environments subject to exposure from the release of a hazardous substance to the air.  <table border="1"> <thead> <tr> <th>Sensitive Environment Type</th> <th>Value</th> </tr> </thead> <tbody> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Wetland Acreage</th> <th>Value</th> </tr> </thead> <tbody> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table>	Sensitive Environment Type	Value									Wetland Acreage	Value									0		
Sensitive Environment Type	Value																						
Wetland Acreage	Value																						
7. POTENTIAL CONTAMINATION SENSITIVE ENVIRONMENTS: Use SI Table 24 to evaluate sensitive environments not subject to exposure from a release.	0.00	0	Ref Book																				
8. RESOURCES: Assign a score of 5 if one or more air resources apply within 1/2 mile of a source; assign a 0 if none applies. <ul style="list-style-type: none"> <li>Commercial agriculture</li> <li>Commercial silviculture</li> <li>Major or designated recreation area</li> </ul>	0	-	Topo -																				

subject not  
5/23/90  
Chemical  
Summary

Industrial/  
residential  
area

T = 73 H

SI TABLE 22 (From HRS TABLE 6-17): VALUES FOR POTENTIAL CONTAMINATION AIR TARGET POPULATIONS

Distance from Site	Pop.	Nearest Individual (choose highest)	Number of People within the Distance Category												Pop. Value
			1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	1,000,000 to 3,000,000	
On a source	200	20	4	17	53	164	522	1,633	5,214	16,325	52,137	163,246	521,360	1,632,455	164
0 to $\frac{1}{4}$ mile	119	*	1	4	13	41	131	408	1,304	4,081	13,034	40,812	130,340	408,114	131
$> \frac{1}{4}$ to $\frac{1}{2}$ mile	14	2	0.2	0.9	3	9	28	88	282	882	2,815	8,815	28,153	88,153	0.9
$> \frac{1}{2}$ to 1 mile	6,758	1	0.06	0.3	0.9	3	8	26	83	261	834	2,612	8,342	26,119	83
$> 1$ to 2 miles	18,723	0	0.02	0.09	0.3	0.8	3	8	27	83	266	833	2,659	8,326	83
$> 2$ to 3 miles	13,261	0	0.009	0.04	0.1	0.4	1	4	12	38	120	375	1,199	3,755	32
$> 3$ to 4 miles	15,119	0	0.005	0.02	0.07	0.2	0.7	2	7	28	73	229	730	2,285	28
Nearest Individual =		20	$527.9 \times 0.1 = 52.79 \rightarrow 53$												Sum = 527.9

References GEMS project No. 5123144 Charles J. Comstock

\* Score = 20 if the Nearest Individual is within  $\frac{1}{8}$  mile of a source; score = 7 if the Nearest Individual is between  $\frac{1}{8}$  and  $\frac{1}{4}$  mile of a source.

CONFIDENTIAL

SI TABLE 23 (HRS TABLE 6-18): AIR PATHWAY VALUES FOR WETLAND AREA

Wetland Area	Assigned Value
< 1 acre	0
1 to 50 acres	25
> 50 to 100 acres	75
> 100 to 150 acres	125
> 150 to 200 acres	175
> 200 to 300 acres	250
> 300 to 400 acres	350
> 400 to 500 acres	450
> 500 acres	500

SI TABLE 24: DISTANCE WEIGHTS AND CALCULATIONS FOR AIR PATHWAY POTENTIAL CONTAMINATION SENSITIVE ENVIRONMENTS

Distance	Distance Weight	Sensitive Environment Type and Value (from SI Tables 13 and 20)	Product
On a Source	0.10	x	
		x	
0 to 1/4 mile	0.025	x	
		x	
		x	
1/4 to 1/2 mile	0.0054	x	
		x	
		x	
1/2 to 1 mile	0.0016	x	
		x	
		x	
1 to 2 miles	0.0005	x	
		x	
		x	
2 to 3 miles	0.00023	x	
		x	
		x	
3 to 4 miles wetlands	0.00014	x 25 wetlands	0.0035
		x	
		x	
> 4 miles	0	x	

Total Environments Score = 0.00

Rounded to 0.00

Several Federally Designated endangered and threatened species may inhabit many wetlands in TN however their exact locations have not been identified (Red Book).

- approximately 20 acres of wetlands are located within 3/4 mile southeast of the facility (Topo map)

## AIR PATHWAY (concluded)

## WASTE CHARACTERISTICS

9. If any Actual Contamination Targets exist for the air pathway, assign the calculated hazardous waste quantity score or a score of 100, whichever is greater; if there are no Actual Contamination Targets for the air pathway, assign the calculated HWQ score for sources available to air migration.	10																						
10. Assign the highest air toxicity/mobility value from SI Table 21. 3 or	10, DND																						
11. Multiply the air pathway toxicity/mobility and hazardous waste quantity scores. Assign the Waste Characteristics score from the table below:  <table border="1" data-bbox="316 646 852 949"> <thead> <tr> <th>Product</th> <th>WC Score</th> </tr> </thead> <tbody> <tr><td>0</td><td>0</td></tr> <tr><td>&gt;0 to &lt;10</td><td>1</td></tr> <tr><td>10 to &lt;100</td><td>2</td></tr> <tr><td>100 to &lt;1,000</td><td>3</td></tr> <tr><td>1,000 to &lt; 10,000</td><td>6</td></tr> <tr><td>10,000 to &lt;1E + 05</td><td>10</td></tr> <tr><td>1E + 05 to &lt;1E + 06</td><td>18</td></tr> <tr><td>1E + 06 to &lt;1E + 07</td><td>32</td></tr> <tr><td>1E + 07 to &lt;1E + 08</td><td>56</td></tr> <tr><td>1E + 08 or greater</td><td>100</td></tr> </tbody> </table>	Product	WC Score	0	0	>0 to <10	1	10 to <100	2	100 to <1,000	3	1,000 to < 10,000	6	10,000 to <1E + 05	10	1E + 05 to <1E + 06	18	1E + 06 to <1E + 07	32	1E + 07 to <1E + 08	56	1E + 08 or greater	100	WC = 12
Product	WC Score																						
0	0																						
>0 to <10	1																						
10 to <100	2																						
100 to <1,000	3																						
1,000 to < 10,000	6																						
10,000 to <1E + 05	10																						
1E + 05 to <1E + 06	18																						
1E + 06 to <1E + 07	32																						
1E + 07 to <1E + 08	56																						
1E + 08 or greater	100																						

AIR PATHWAY SCORE:

$$\frac{500 \times 73 \times 12}{LE \times T \times WC} = 82,500$$

7.96 (maximum of 100)
--------------------------

SITE SCORE CALCULATION		S	S <sup>2</sup>
GROUND WATER PATHWAY SCORE (S <sub>GW</sub> )		0.48	0.2304
SURFACE WATER PATHWAY SCORE (S <sub>SW</sub> )		0.48	0.2304
SOIL EXPOSURE (S <sub>S</sub> )		1.34	1.7956
AIR PATHWAY SCORE (S <sub>A</sub> )		7.96	63.36
SITE SCORE $\sqrt{\frac{S_{GW}^2 + S_{SW}^2 + S_S^2 + S_A^2}{4}} =$			4.05

## COMMENTS

Based on the above overall site score, Dynamac recommends that the site evaluation be considered accomplished at the Federal level for Viscose Corporation.



**OVERSIZED**

**DOCUMENT**

PROJECT NOTE

DYNAMAC CORPORATION

PREPARED BY: Sandra J. Harrigan  
DATE: May 23, 1994  
TIME: 9:50 am

SIGNATURE/DATE: *Sandra J. Harrigan*  
SITE: Vulcan Corporation  
EPA ID NO. TND057874125

5/23/94

GENERAL SUBJECT: Information obtained from the Clarksville Chamber of Commerce.

DISCUSSION:

I called the Clarksville Chamber of Commerce to obtain the number of workers employed by Vulcan Corporation. The representative at the Chamber of Commerce provided the following information about the Vulcan Corporation:

Vulcan Corporation's address is:  
1151 Pettus Street  
P.O. Box 709  
Clarksville, Tennessee 37041-0709  
Phone no. (615) 645-6431

The facility began operations in 1972 and is still active; it employs over 200 people.

FORM 1		ENVIRONMENTAL PROTECTION AGENCY		I. EPA I.D. NUMBER	
GENERAL		GENERAL INFORMATION		ETN 00528741253	
LABEL ITEMS		Consolidated Permits Program		GENERAL INSTRUCTIONS	
I. EPA I.D. NUMBER		(Read the "General Instructions" before starting.)		If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent (the area to the left of the label space lists the information that should appear), please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete items I, III, V, and VI (except VI-B which must be completed regardless). Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.	
III. FACILITY NAME		REFERENCE NO. 3			
V. FACILITY MAILING ADDRESS		PLEASE PLACE LABEL IN THIS SPACE			
VI. FACILITY LOCATION					

**II. POLLUTANT CHARACTERISTICS**

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK "X" FORM ATTACHED			SPECIFIC QUESTIONS	MARK "X" FORM ATTACHED		
	YES	NO	FORM ATTACHED		YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X		B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)		X		D. Is this a proposed facility (other than those described in A or B above) which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		X	F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X		J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

**III. NAME OF FACILITY**

1 SKIP VULCANN CORP

**IV. FACILITY CONTACT**

A. NAME & TITLE (last, first, & title) DEW JOE PLT MANAGER

B. PHONE (area code & no.) 615 645 6431

**V. FACILITY MAILING ADDRESS**

A. STREET OR P.O. BOX PETTUS ST

B. CITY OR TOWN CLARKSVILLE

C. STATE TN

D. ZIP CODE 37040

**VI. FACILITY LOCATION**

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER PETTUS ST

B. COUNTY NAME MONTGOMERY

C. CITY OR TOWN CLARKSVILLE

D. STATE TN

E. ZIP CODE 37040

F. COUNTY CODE (if known)

CONTINUED FROM THE FRONT

SIC CODES (4-digit, in order of priority)

A. FIRST 3021 (specify) RUBBER PLASTIC FOOTWEAR		B. SECOND 7 (specify)	
C. THIRD 7 (specify)		D. FOURTH 7 (specify)	

OPERATOR INFORMATION

A. NAME VULCAN CORP		B. Is the name listed in Item VIII-A also the owner? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
------------------------	--	---	--

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.) - FEDERAL M - PUBLIC (other than federal or state) P (specify) - STATE O - OTHER (specify) - PRIVATE		D. PHONE (area code & no.) 615 645 6431	
--	--	--	--

E. STREET OR P.O. BOX ETTUS ST	
-----------------------------------	--

F. CITY OR TOWN CLARKSVILLE	G. STATE TN	H. ZIP CODE 37040	IX. INDIAN LAND Is the facility located on Indian lands? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
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EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)	D. PSD (Air Emissions from Proposed Sources)
B. UIC (Underground Injection of Fluids)	E. OTHER (specify)
C. RCRA (Hazardous Wastes)	E. OTHER (specify)

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

NATURE OF BUSINESS (provide a brief description)

Manufacturing of rubber products used in footwear industry. Products include heels and soles.

I. CERTIFICATION (see Instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

WALLACE H. PEARSON, VICE PRESIDENT AND JOE DEW PLT MGR	Signature: Joe Dew	C. DATE SIGNED 11/12/80
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REMARKS FOR OFFICIAL USE ONLY

U.S. ENVIRONMENTAL PROTECTION AGENCY  
**HAZARDOUS WASTE PERMIT APPLICATION**  
Consolidated Permits Program  
(This information is required under Section 3005 of RCRA.)

EPA I.D. NUMBER

FTND05787412531

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS
32	24	

I. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below (mark one box only) to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION (place an "X" below and provide the appropriate date)

☒ 1. EXISTING FACILITY (See instructions for definition of "existing" facility. Complete item below.)

☐ 2. NEW FACILITY (Complete item below.)

FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED (use the boxes to the left)

FOR NEW FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR IS EXPECTED TO BEGIN

B. REVISED APPLICATION (place an "X" below and complete Item I above)

☒ 1. FACILITY HAS INTERIM STATUS

☐ 2. FACILITY HAS A RCRA PERMIT

II. PROCESSES — CODES AND DESIGN CAPACITIES

A. PROCESS CODE — Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process (including its design capacity) in the space provided on the form (Item III-C).

B. PROCESS DESIGN CAPACITY — For each code entered in column A enter the capacity of the process.

1. AMOUNT — Enter the amount.

2. UNIT OF MEASURE — For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
---------	--------------	--

Storage:		
CONTAINER (barrel, drum, etc.)	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS

Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET (the volume that would cover one acre to a depth of one foot) OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS

UNIT OF MEASURE	UNIT OF MEASURE CODE
-----------------	----------------------

GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U

UNIT OF MEASURE	UNIT OF MEASURE CODE
-----------------	----------------------

LITERS PER DAY	V
TONS PER HOUR	D
METRIC TONS PER HOUR	W
GALLONS PER HOUR	E
LITERS PER HOUR	H

Treatment:

TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR

OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)

T04	GALLONS PER DAY OR LITERS PER DAY
-----	-----------------------------------

ACRE-FEET	A
HECTARE-METER	F
ACRES	B
HECTARES	Q

EXAMPLE FOR COMPLETING ITEM III (shown in line numbers X-1 and X-2 below): A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

DUP									
B. PROCESS DESIGN CAPACITY									
LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY		FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY		FOR OFFICIAL USE ONLY
		1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)				1. AMOUNT	2. UNIT OF MEASURE (enter code)	
X-1	S02	600	G		5				
X-2	T03	20	E		6				
1	S01	550	G		7				
2					8				
3					9				
4					10				

**I. PROCESSES (continued)**

SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES (code "T04") OR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

**DESCRIPTION OF HAZARDOUS WASTES**

**EPA HAZARDOUS WASTE NUMBER** — Enter the four-digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four-digit number(s) from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

**ESTIMATED ANNUAL QUANTITY** — For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.

**UNIT OF MEASURE** — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

**ENGLISH UNIT OF MEASURE**      **CODE**  
 POUNDS. . . . . P  
 TONS. . . . . T

**METRIC UNIT OF MEASURE**      **CODE**  
 KILOGRAMS. . . . . K  
 METRIC TONS. . . . . M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

**PROCESSES****1. PROCESS CODES:**

**For listed hazardous waste:** For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.

**For non-listed hazardous wastes:** For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process codes contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.

**Note:** Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

**2. PROCESS DESCRIPTION:** If a code is not listed for a process that will be used, describe the process in the space provided on the form.

**NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER** — Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

**SAMPLE FOR COMPLETING ITEM IV (shown in line numbers X-1, X-2, X-3, and X-4 below)** — A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZ. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES							
				1. PROCESS CODES (enter)				2. PROCESS DESCRIPTION (If a code is not entered in D(1))			
X-1	K 0 5 4	900	P	T	0	3	D	8	0		
X-2	D 0 0 2	400	P	T	0	3	D	8	0		
X-3	D 0 0 1	100	P	T	0	3	D	8	0		
X-4	D 0 0 2									included with above	

EPA I.D. NUMBER (enter from page 1)												FOR OFFICIAL USE ONLY											
TND0578741253												W DUP 2 DUP											

V. DESCRIPTION OF HAZARDOUS WASTES (continued)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	A. EPA HAZARD. WASTE NO. (enter code)			B. ESTIMATED ANNUAL QUANTITY OF WASTE			C. UNIT OF MEASURE (enter code)			D. PROCESSES											
	13	14	15	16	17	18	19	20	21	1. PROCESS CODES (enter)						2. PROCESS DESCRIPTION (If a code is not entered in D(1))					
1	F	0	0	3					P												
2	F	0	0	5					P												
3	P	0	8	3					P												
4	P	1	1	5					P												
5	P	1	1	7					P												
6	U	1	0	7					P												
7	U	1	9	0					P												
8	U	2	3	9					P												
9																					
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24																					
25																					
26																					

7. DESCRIPTION OF HAZARDOUS WASTES

(continued)

USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

EPA I.D. NO. (enter from page 1)

TRD057874/253

FACILITY DRAWING

If existing facilities must include in the space provided on page 5 a scale drawing of the facility (see instructions for more detail).

I. PHOTOGRAPHS

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

II. FACILITY GEOGRAPHIC LOCATION

LATITUDE (degrees, minutes, & seconds)				LONGITUDE (degrees, minutes, & seconds)			
36	32	06		087	20	037	0-

III. FACILITY OWNER

☒ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER				2. PHONE NO. (area code & no.)			
Volcom Corporation				517-621-2550			
3. STREET OR P.O. BOX		4. CITY OR TOWN		5. ST.		6. ZIP CODE	
6 East Fourth St.		CINCINNATI		OH		45204	

X. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED
JOHN P. FRANKLIN, VICE PRESIDENT AND TREASURER	<i>John P. Franklin</i>	NOV 18 1980

OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED
JOE DEW	<i>Joe Dew</i>	11-12-80



Under suspension  
TAD 0575 74125  
Montgomery Co.

PART A  
SUSPENDED PER  
OWNER/OPERATOR'S REQUEST  
TO WITHDRAW  

---

AWAITING VERIFICATION  
BY FIELD OFFICE



SITE: Vulcan Corp TND 057874125

( CITY: Clarksville CNTY: Montgomery

Preliminary Assessment: X yes,    no Date: 12/21/83 Submitted by 3012 Program

Site Inspection: X yes,    no Date: 3/22/84 Submitted by 3012 Program

Site Disposition:    Pending X No Further Action

Currently Being Investigated by    EPA,    State Superfund,  
   State Site Screening,    Other(specify)

Priority for Inspection:    Low    Med    High

Comments:

No in site disposal, all waste sent to county landfill (on Erris). No further action needed.



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION

01 STATE TN 02 SITE NUMBER 0057874125

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, Common, or descriptive name) <u>VULCAN CORPORATION</u>		02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER <u>PETTUS STREET</u>				
03 CITY <u>CLARKSVILLE</u>		04 STATE <u>TN</u>	05 ZIP CODE <u>37040</u>	06 COUNTY <u>MONTGOMERY</u>	07 COUNTY CODE <u>125</u>	08 CONG. DIST. <u>06</u>
09 COORDINATES LATITUDE <u>36 32 06</u> LONGITUDE <u>087 20 37</u>		10 TYPE OF OWNERSHIP (Check one) <input checked="" type="checkbox"/> A. PRIVATE <input type="checkbox"/> B. FEDERAL <input type="checkbox"/> C. STATE <input type="checkbox"/> D. COUNTY <input type="checkbox"/> E. MUNICIPAL <input type="checkbox"/> F. OTHER <input type="checkbox"/> G. UNKNOWN				

III. INSPECTION INFORMATION

01 DATE OF INSPECTION <u>3 21 84</u> MONTH DAY YEAR	02 SITE STATUS <input checked="" type="checkbox"/> ACTIVE <input type="checkbox"/> INACTIVE	03 YEARS OF OPERATION <u>72</u> <u>PRESENT</u> UNKNOWN BEGINNING YEAR ENDING YEAR	
04 AGENCY PERFORMING INSPECTION (Check all that apply) <input checked="" type="checkbox"/> A. EPA <input type="checkbox"/> B. EPA CONTRACTOR <input type="checkbox"/> C. MUNICIPAL <input type="checkbox"/> D. MUNICIPAL CONTRACTOR <input checked="" type="checkbox"/> E. STATE <input type="checkbox"/> F. STATE CONTRACTOR <input type="checkbox"/> G. OTHER			

05 CHIEF INSPECTOR <u>BILL FORRESTER</u>	06 TITLE <u>PROJECT DIRECTOR, 3012</u>	07 ORGANIZATION <u>SWM</u>	08 TELEPHONE NO. <u>(615) 741-6287</u>
09 OTHER INSPECTORS <u>RONNIE BOWERS</u>	10 TITLE <u>CHEMIST</u>	11 ORGANIZATION <u>SWM</u>	12 TELEPHONE NO. <u>(615) 741-6287</u>
<u>CHARLES ALLEN</u>	<u>ENVIRONMENTAL ENGR.</u>	<u>SWM</u>	<u>(615) 741-6287</u>
			( )
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED <u>JOE DEW</u>	14 TITLE <u>GEN. MGR.</u>	15 ADDRESS <u>VULCAN, PETTUS ST.</u>	16 TELEPHONE NO. <u>(615) 645-6431</u>
<u>WILLIE WILLIAMS</u>	<u>SAFETY MGR</u>	<u>VULCAN, PETTUS ST.</u>	<u>(615) 645-6431</u>
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one) <input checked="" type="checkbox"/> PERMISSION <input type="checkbox"/> WARRANT	18 TIME OF INSPECTION <u>8:30 AM</u>	19 WEATHER CONDITIONS <u>COLD, OVERCAST, RAINY</u>
--	---	---

IV. INFORMATION AVAILABLE FROM

01 CONTACT <u>JOE DEW</u>	02 OF Agency Organization <u>VULCAN CORP.</u>		03 TELEPHONE NO. <u>(615) 645-6431</u>
04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM <u>CHARLES ALLEN</u>	05 AGENCY <u>SWM</u>	06 ORGANIZATION <u>TN DEPT. H+E</u>	07 TELEPHONE NO. <u>615-741-6287</u>
			08 DATE <u>3 22 84</u> MONTH DAY YEAR





POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE <i>TN</i>	02 SITE NUMBER <i>0057874125</i>

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☐ A. GROUNDWATER CONTAMINATION  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
04 NARRATIVE DESCRIPTION

01 ☐ B. SURFACE WATER CONTAMINATION  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
04 NARRATIVE DESCRIPTION

01 ☐ C. CONTAMINATION OF AIR  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
04 NARRATIVE DESCRIPTION

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
04 NARRATIVE DESCRIPTION

01 ☐ E. DIRECT CONTACT  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
04 NARRATIVE DESCRIPTION

01 ☐ F. CONTAMINATION OF SOIL  
03 AREA POTENTIALLY AFFECTED: \_\_\_\_\_ 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
04 NARRATIVE DESCRIPTION

01 ☐ G. DRINKING WATER CONTAMINATION  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
04 NARRATIVE DESCRIPTION

01 ☐ H. WORKER EXPOSURE/INJURY  
03 WORKERS POTENTIALLY AFFECTED: \_\_\_\_\_ 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
04 NARRATIVE DESCRIPTION

01 ☐ I. POPULATION EXPOSURE/INJURY  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
04 NARRATIVE DESCRIPTION



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
TH	0057874125

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☐ J. DAMAGE TO FLORA  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED

01 ☐ K. DAMAGE TO FAUNA  
04 NARRATIVE DESCRIPTION *Place names, species.*

02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED

01 ☐ L. CONTAMINATION OF FOOD CHAIN  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES  
*Spills, runoff, standing liquids, leaking drums.*  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED

01 ☐ N. DAMAGE TO OFFSITE PROPERTY  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED

01 ☐ P. ILLEGAL UNAUTHORIZED DUMPING  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

III. TOTAL POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_

IV. COMMENTS

V. SOURCES OF INFORMATION *Cite specific references, e.g., state files, sample analysis reports.*



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION  
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
TN 3057374125

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
<input type="checkbox"/> A. NPDES				
<input type="checkbox"/> B. UIC				
<input type="checkbox"/> C. AIR				
<input type="checkbox"/> D. RCRA				
<input type="checkbox"/> E. RCRA INTERIM STATUS				
<input type="checkbox"/> F. SPCC PLAN				
<input type="checkbox"/> G. STATE (Specify)				
<input type="checkbox"/> H. LOCAL (Specify)				
<input type="checkbox"/> I. OTHER (Specify)				
<input type="checkbox"/> J. NONE				

III. SITE DESCRIPTION

01 STORAGE/ DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE	04 TREATMENT (Check all that apply)	05 OTHER
<input type="checkbox"/> A. SURFACE IMPOUNDMENT			<input type="checkbox"/> A. INCINERATION	<input checked="" type="checkbox"/> A. BUILDINGS ON SITE
<input type="checkbox"/> B. PILES			<input type="checkbox"/> B. UNDERGROUND INJECTION	
<input checked="" type="checkbox"/> C. DRUMS, ABOVE GROUND			<input type="checkbox"/> C. CHEMICAL/ PHYSICAL	06 AREA OF SITE 30 (Acres)
<input type="checkbox"/> D. TANK, ABOVE GROUND			<input type="checkbox"/> D. BIOLOGICAL	
<input type="checkbox"/> E. TANK, BELOW GROUND			<input type="checkbox"/> E. WASTE OIL PROCESSING	
<input type="checkbox"/> F. LANDFILL			<input type="checkbox"/> F. SOLVENT RECOVERY	
<input type="checkbox"/> G. LANDFARM			<input type="checkbox"/> G. OTHER RECYCLING/ RECOVERY	
<input type="checkbox"/> H. OPEN DUMP			<input type="checkbox"/> H. OTHER (Specify)	
<input type="checkbox"/> I. OTHER (Specify)				

07 COMMENTS

SPENT SOLVENTS TRANSPORTED TO CHEM FUEL. WASTE OILS TRANSPORTED TO TN. OIL REFINING. NO ON-SITE DISPOSAL. B.F. GOODRICH OWNED THE COMPANY PRIOR '72. TRASH IS TAKEN TO SANITARY LANDFILL

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

☒ A. ADEQUATE, SECURE ☐ B. MODERATE ☐ C. INADEQUATE, POOR ☐ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

WASTES STORED IN 55 gal DRUMS ON PALLETS OUTSIDE AND LABELED.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☒ YES ☐ NO

02 COMMENTS

VI. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

JOE DEW (SITE INTERVIEW)





POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
TX	0057874125

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)			02 STATUS			03 DISTANCE TO SITE	
	SURFACE	WELL	ENDANGERED	AFFECTED	MONITORED		
COMMUNITY	A. <input type="checkbox"/>	B. <input type="checkbox"/>	A. <input type="checkbox"/>	B. <input type="checkbox"/>	C. <input type="checkbox"/>	A. _____ (mi)	
NON-COMMUNITY	C. <input type="checkbox"/>	D. <input type="checkbox"/>	D. <input type="checkbox"/>	E. <input type="checkbox"/>	F. <input type="checkbox"/>	B. _____ (mi)	

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

☐ A. ONLY SOURCE FOR DRINKING    ☐ B. DRINKING  
(Other sources available)  
COMMERCIAL, INDUSTRIAL, IRRIGATION  
(No other water sources available)

☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION  
(Limited other sources available)    ☐ D. NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER _____		03 DISTANCE TO NEAREST DRINKING WATER WELL _____ (mi)	
04 DEPTH TO GROUNDWATER _____ (ft)	05 DIRECTION OF GROUNDWATER FLOW _____	06 DEPTH TO AQUIFER OF CONCERN _____ (ft)	07 POTENTIAL YIELD OF AQUIFER _____ (gpd)
		08 SOLE SOURCE AQUIFER <input type="checkbox"/> YES <input type="checkbox"/> NO	

09 DESCRIPTION OF WELLS (including usage, depth, and location relative to population and buildings)

10 RECHARGE AREA

☐ YES    COMMENTS \_\_\_\_\_

☐ NO

11 DISCHARGE AREA

☐ YES    COMMENTS \_\_\_\_\_

☐ NO

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

☐ A. RESERVOIR, RECREATION  
DRINKING WATER SOURCE    ☐ B. IRRIGATION, ECONOMICALLY  
IMPORTANT RESOURCES    ☐ C. COMMERCIAL, INDUSTRIAL    ☐ D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
_____	<input type="checkbox"/>	_____ (mi)
_____	<input type="checkbox"/>	_____ (mi)
_____	<input type="checkbox"/>	_____ (mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN			02 DISTANCE TO NEAREST POPULATION
ONE (1) MILE OF SITE A. _____ NO. OF PERSONS	TWO (2) MILES OF SITE B. _____ NO. OF PERSONS	THREE (3) MILES OF SITE C. _____ NO. OF PERSONS	_____ (mi)
03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE _____		04 DISTANCE TO NEAREST OFF-SITE BUILDING _____ (mi)	

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
TN 0057874125

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (check one)

☐ A.  $10^{-6}$  -  $10^{-3}$  cm/sec ☐ B.  $10^{-4}$  -  $10^{-2}$  cm/sec ☐ C.  $10^{-2}$  -  $10^{-1}$  cm/sec ☐ D. GREATER THAN  $10^{-2}$  cm/sec

02 PERMEABILITY OF BEDROCK (check one)

☐ A. IMPERMEABLE ☐ B. RELATIVELY IMPERMEABLE ☐ C. RELATIVELY PERMEABLE ☐ D. VERY PERMEABLE  
Less than  $10^{-9}$  cm/sec.  $10^{-9}$  -  $10^{-7}$  cm/sec.  $10^{-7}$  -  $10^{-4}$  cm/sec. Greater than  $10^{-4}$  cm/sec.

03 DEPTH TO BEDROCK

04 DEPTH OF CONTAMINATED SOIL ZONE

05 SOIL CM

\_\_\_\_ (ft)

\_\_\_\_ (ft)

\_\_\_\_

06 NET PRECIPITATION

07 ONE YEAR 24 HOUR RAINFALL

08 SLOPE

SITE SLOPE

DIRECTION OF SITE SLOPE

TERRAIN AVERAGE SLOPE

\_\_\_\_ (in)

\_\_\_\_ (in)

\_\_\_\_ %

\_\_\_\_

\_\_\_\_ %

09 FLOOD POTENTIAL

10

SITE IS IN \_\_\_\_ YEAR FLOODPLAIN

☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE

OTHER

A. \_\_\_\_ (mi)

B. \_\_\_\_ (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

\_\_\_\_ (mi)

ENDANGERED SPECIES: \_\_\_\_

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL

RESIDENTIAL AREAS, NATIONAL STATE PARKS,  
FORESTS, OR WILDLIFE RESERVES

AGRICULTURAL LANDS  
PRIME AG LAND

AG LAND

A. \_\_\_\_ (mi)

B. \_\_\_\_ (mi)

C. \_\_\_\_ (mi)

D. \_\_\_\_ (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

VII. SOURCES OF INFORMATION (cite specific references, e.g., state files, lab test analyses, reports)



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
TN 0057874125

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER			
SURFACE WATER			
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL			
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN

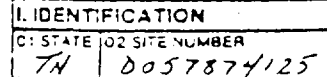
01 TYPE	02 COMMENTS

IV. PHOTOGRAPHS AND MAPS

01 TYPE <input type="checkbox"/> GROUND <input type="checkbox"/> AERIAL	02 IN CUSTODY OF _____ <small>Name of organization or individual</small>
03 MAPS <input type="checkbox"/> YES <input type="checkbox"/> NO	04 LOCATION OF MAPS _____

V. OTHER FIELD DATA COLLECTED Provide narrative description

VI. SOURCES OF INFORMATION (Give specific references, e.g., state files, labore analysis, records)



EPA FORM 2070-15 (7-81)



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
TN 0057874125

II. CURRENT OPERATOR <small>Provide if different from owner</small>				OPERATOR'S PARENT COMPANY <small>(If applicable)</small>			
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS <small>(P.O. Box, RFD, etc.)</small>		04 SIC CODE		12 STREET ADDRESS <small>(P.O. Box, RFD, etc.)</small>		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER					
III. PREVIOUS OPERATOR(S) <small>List most recent first; provide only if different from owner</small>				PREVIOUS OPERATORS' PARENT COMPANIES <small>(If applicable)</small>			
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS <small>(P.O. Box, RFD, etc.)</small>		04 SIC CODE		12 STREET ADDRESS <small>(P.O. Box, RFD, etc.)</small>		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS <small>(P.O. Box, RFD, etc.)</small>		04 SIC CODE		12 STREET ADDRESS <small>(P.O. Box, RFD, etc.)</small>		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS <small>(P.O. Box, RFD, etc.)</small>		04 SIC CODE		12 STREET ADDRESS <small>(P.O. Box, RFD, etc.)</small>		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					
IV. SOURCES OF INFORMATION <small>(Cite specific references, e.g., State files, laboratory analyses, reports)</small>							



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION  
01 STATE 02 SITE NUMBER  
TN 0057874125

II. ON-SITE GENERATOR

01 NAME VULCAN CORPORATION		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD, etc.) PETTUS ST.		04 SIC CODE	
05 CITY CLARKSVILLE	06 STATE TN	07 ZIP CODE 37040	

III. OFF-SITE GENERATOR(S)

01 NAME		02 D+B NUMBER		01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD, etc.)		04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD, etc.)		04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		05 CITY	06 STATE	07 ZIP CODE	
01 NAME		02 D+B NUMBER		01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD, etc.)		04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD, etc.)		04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		05 CITY	06 STATE	07 ZIP CODE	

IV. TRANSPORTER(S)

01 NAME RESOURCE RECYCLING		02 D+B NUMBER		01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD, etc.) 1000 MARKET ST.		04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD, etc.)		04 SIC CODE	
05 CITY PORTLAND	06 STATE TN	07 ZIP CODE		05 CITY	06 STATE	07 ZIP CODE	
01 NAME		02 D+B NUMBER		01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD, etc.)		04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD, etc.)		04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		05 CITY	06 STATE	07 ZIP CODE	

V. SOURCES OF INFORMATION (See specific references, e.g., State files, laboratory analysis, records)

JAE DEW (SITE INTERVIEW)



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
TN 0057874125

II. PAST RESPONSE ACTIVITIES

01 <input type="checkbox"/> A. WATER SUPPLY CLOSED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> B. TEMPORARY WATER SUPPLY PROVIDED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> C. PERMANENT WATER SUPPLY PROVIDED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> D. SPILLED MATERIAL REMOVED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> E. CONTAMINATED SOIL REMOVED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> F. WASTE REPACKAGED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> G. WASTE DISPOSED ELSEWHERE 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> H. ON SITE BURIAL 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> I. IN SITU CHEMICAL TREATMENT 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> J. IN SITU BIOLOGICAL TREATMENT 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> K. IN SITU PHYSICAL TREATMENT 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> L. ENCAPSULATION 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> M. EMERGENCY WASTE TREATMENT 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> N. CUTOFF WALLS 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> O. EMERGENCY DIKING/SURFACE WATER DIVERSION 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> P. CUTOFF TRENCHES/SUMP 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> Q. SUBSURFACE CUTOFF WALL 04 DESCRIPTION	02 DATE _____	03 AGENCY _____



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

TN 0057874125

II PAST RESPONSE ACTIVITIES (Continued)

01 ☐ R. BARRIER WALLS CONSTRUCTED  
04 DESCRIPTION

02 DATE

03 AGENCY

01 ☐ S. CAPPING/COVERING  
04 DESCRIPTION

02 DATE

03 AGENCY

01 ☐ T. BULK TANKAGE REPAIRED  
04 DESCRIPTION

02 DATE

03 AGENCY

01 ☐ U. GROUT CURTAIN CONSTRUCTED  
04 DESCRIPTION

02 DATE

03 AGENCY

01 ☐ V. BOTTOM SEALED  
04 DESCRIPTION

02 DATE

03 AGENCY

01 ☐ W. GAS CONTROL  
04 DESCRIPTION

02 DATE

03 AGENCY

01 ☐ X. FIRE CONTROL  
04 DESCRIPTION

02 DATE

03 AGENCY

01 ☐ Y. LEACHATE TREATMENT  
04 DESCRIPTION

02 DATE

03 AGENCY

01 ☐ Z. AREA EVACUATED  
04 DESCRIPTION

02 DATE

03 AGENCY

01 ☐ 1. ACCESS TO SITE RESTRICTED  
04 DESCRIPTION

02 DATE

03 AGENCY

01 ☐ 2. POPULATION RELOCATED  
04 DESCRIPTION

02 DATE

03 AGENCY

01 ☐ 3. OTHER REMEDIAL ACTIVITIES  
04 DESCRIPTION

02 DATE

03 AGENCY

III. SOURCES OF INFORMATION (Cite specific references, e.g., STATE/REG. AGENCY ANALYSIS, REPORTS)





POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
TN	0057874125

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☐ YES ☐ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY ENFORCEMENT ACTION

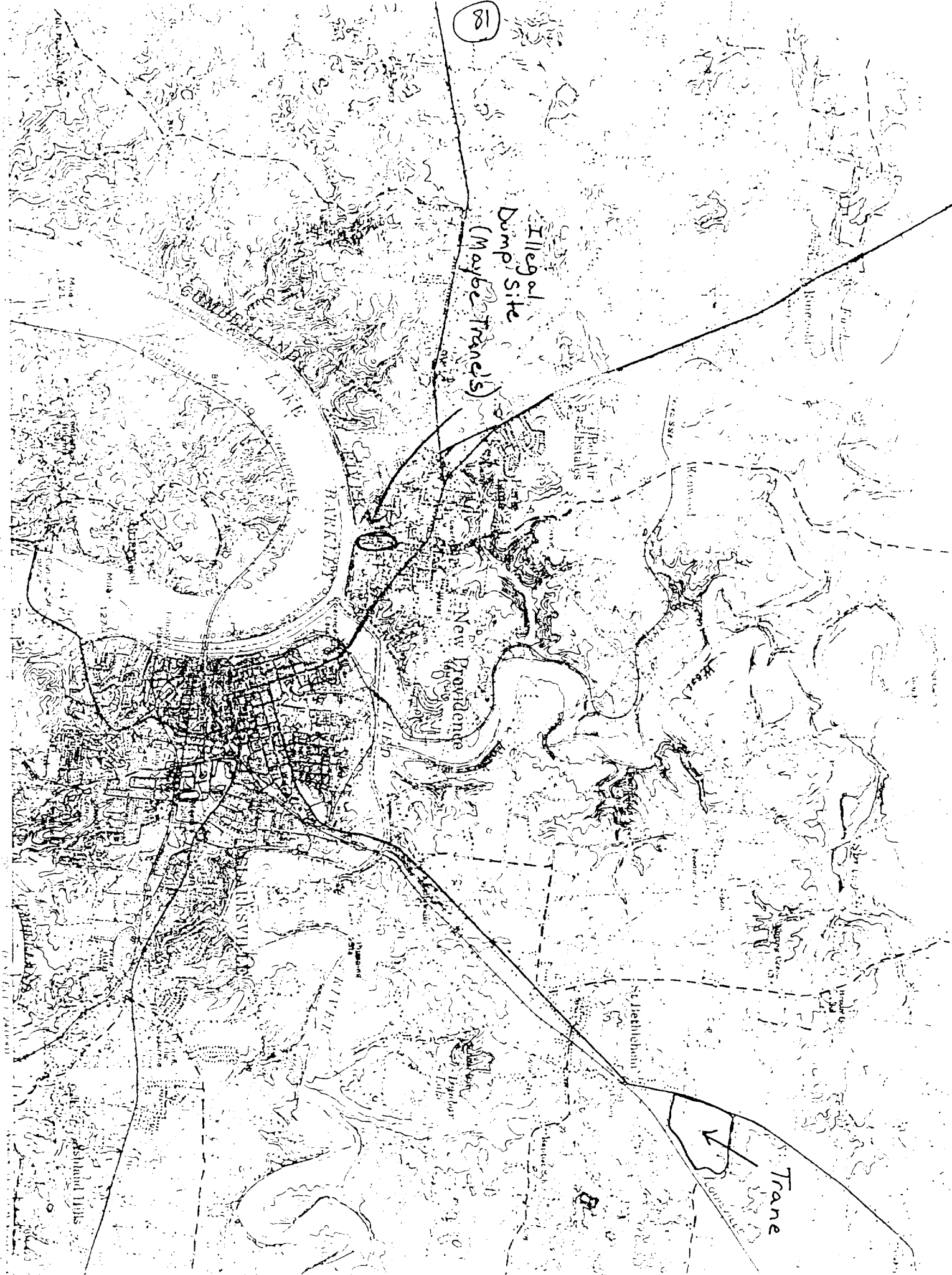
III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, letters, analyses, reports)



18

Illegal  
Dump Site  
(Maybe Trane's)

Trane





**POTENTIAL HAZARDOUS WASTE SITE  
PRELIMINARY ASSESSMENT  
PART 1 - SITE INFORMATION AND ASSESSMENT**

**I. IDENTIFICATION**

01 STATE 02 SITE NUMBER  
TN D057874125

**II. SITE NAME AND LOCATION**

01 SITE NAME (Legal, common, or descriptive name of site)  
Vulcan Corp.

02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER  
Pettus Street

03 CITY  
Clarksville

04 STATE 05 ZIP CODE 06 COUNTY 07 COUNTY CODE 08 CONG DIST  
TN 37040 Montgomery 125 TN-06

09 COORDINATES LATITUDE LONGITUDE  
36 32 06. 087 20 37.

**10 DIRECTIONS TO SITE (Starting from nearest public road)**

I-24 N to Clarksville. Take 2nd Clarksville exit, east arrow on left  
10 miles to Vulcan Corp.

**III. RESPONSIBLE PARTIES**

01 OWNER (if known)  
Vulcan Corp.

02 STREET (Business, mailing, residential)  
6 East Fourth Street

03 CITY  
Cincinnati

04 STATE 05 ZIP CODE 06 TELEPHONE NUMBER  
OH 45202 15131621-2850

07 OPERATOR (if known and different from owner)  
Vulcan Corp.

08 STREET (Business, mailing, residential)  
Pettus Street

09 CITY  
Clarksville

10 STATE 11 ZIP CODE 12 TELEPHONE NUMBER  
TN 37040 16151645-6431

13 TYPE OF OWNERSHIP (Check one):  
☒ A. PRIVATE ☐ B. FEDERAL (Agency name: \_\_\_\_\_) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL  
☐ F. OTHER: \_\_\_\_\_ (Specify: \_\_\_\_\_) ☐ G. UNKNOWN

**14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)**

☒ A. RCRA 3001 DATE RECEIVED: 11/19/80 MONTH DAY YEAR ☐ B. UNCONTROLLED WASTE SITE (RCRA 103(c)) DATE RECEIVED: \_\_\_\_\_ MONTH DAY YEAR ☐ C. NONE

**IV. CHARACTERIZATION OF POTENTIAL HAZARD**

01 ON SITE INSPECTION BY (Check all that apply)  
☒ YES DATE \_\_\_\_\_ MONTH DAY YEAR ☐ A. EPA ☐ B. EPA CONTRACTOR ☒ C. STATE ☐ D. OTHER CONTRACTOR  
☐ NO ☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: \_\_\_\_\_ (Specify: \_\_\_\_\_)  
 CONTRACTOR NAME(S): \_\_\_\_\_

02 SITE STATUS (Check one):  
☒ A. ACTIVE ☐ B. INACTIVE ☐ C. UNKNOWN

03 YEARS OF OPERATION  
 BEGINNING YEAR 1939 ENDING YEAR Present ☐ UNKNOWN

**04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED**

solvents - drum storage  
FOO3 + FOO5 solvent sludges

**05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION**

Drum storage of less than 90 days until shipment

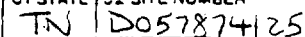
**V. PRIORITY ASSESSMENT****01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste information and Part 3 - Description of Hazardous Conditions and Incidents)**

☐ A. HIGH (Inspection required immediately) ☐ B. MEDIUM (Inspection required) ☒ C. LOW (Inspect on time available basis) ☐ D. NONE (No further action needed, complete current disposition form)

**VI. INFORMATION AVAILABLE FROM**

01 CONTACT 02 OF (Agency, Organization) 03 TELEPHONE NUMBER  
 ( )

04 PERSON RESPONSIBLE FOR ASSESSMENT 05 AGENCY 06 ORGANIZATION 07 TELEPHONE NUMBER 08 DATE  
 Barry Brawley SWM TN Dept. of H+E 16151741-6287 12 24 83  
 MONTH DAY YEAR



☐ I HIGHLY VOLATILE  
☐ J EXPLOSIVE  
☐ K REACTIVE  
☐ L INCOMPATIBLE  
☐ M NOT APPLICABLE

PA FORM 2070-12 (7-81)



POTENTIAL HAZARDOUS WASTE SITE  
PRELIMINARY ASSESSMENT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
TN D057874125

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☐ A. GROUNDWATER CONTAMINATION 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

01 ☐ B. SURFACE WATER CONTAMINATION 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

01 ☐ C. CONTAMINATION OF AIR 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

01 ☐ E. DIRECT CONTACT 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

01 ☐ F. CONTAMINATION OF SOIL 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 AREA POTENTIALLY AFFECTED: \_\_\_\_\_ (Acres) 04 NARRATIVE DESCRIPTION

01 ☐ G. DRINKING WATER CONTAMINATION 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

01 ☐ H. WORKER EXPOSURE/INJURY 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 WORKERS POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

01 ☐ I. POPULATION EXPOSURE/INJURY 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION



POTENTIAL HAZARDOUS WASTE SITE  
PRELIMINARY ASSESSMENT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

TN D057874125

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

01 ☐ K. DAMAGE TO FAUNA  
04 NARRATIVE DESCRIPTION (include numbers of species)

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

01 ☐ L. CONTAMINATION OF FOOD CHAIN  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES  
(Spill/runoff/standing liquid/leaking drums)

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_

04 NARRATIVE DESCRIPTION

01 ☐ N. DAMAGE TO OFFSITE PROPERTY  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

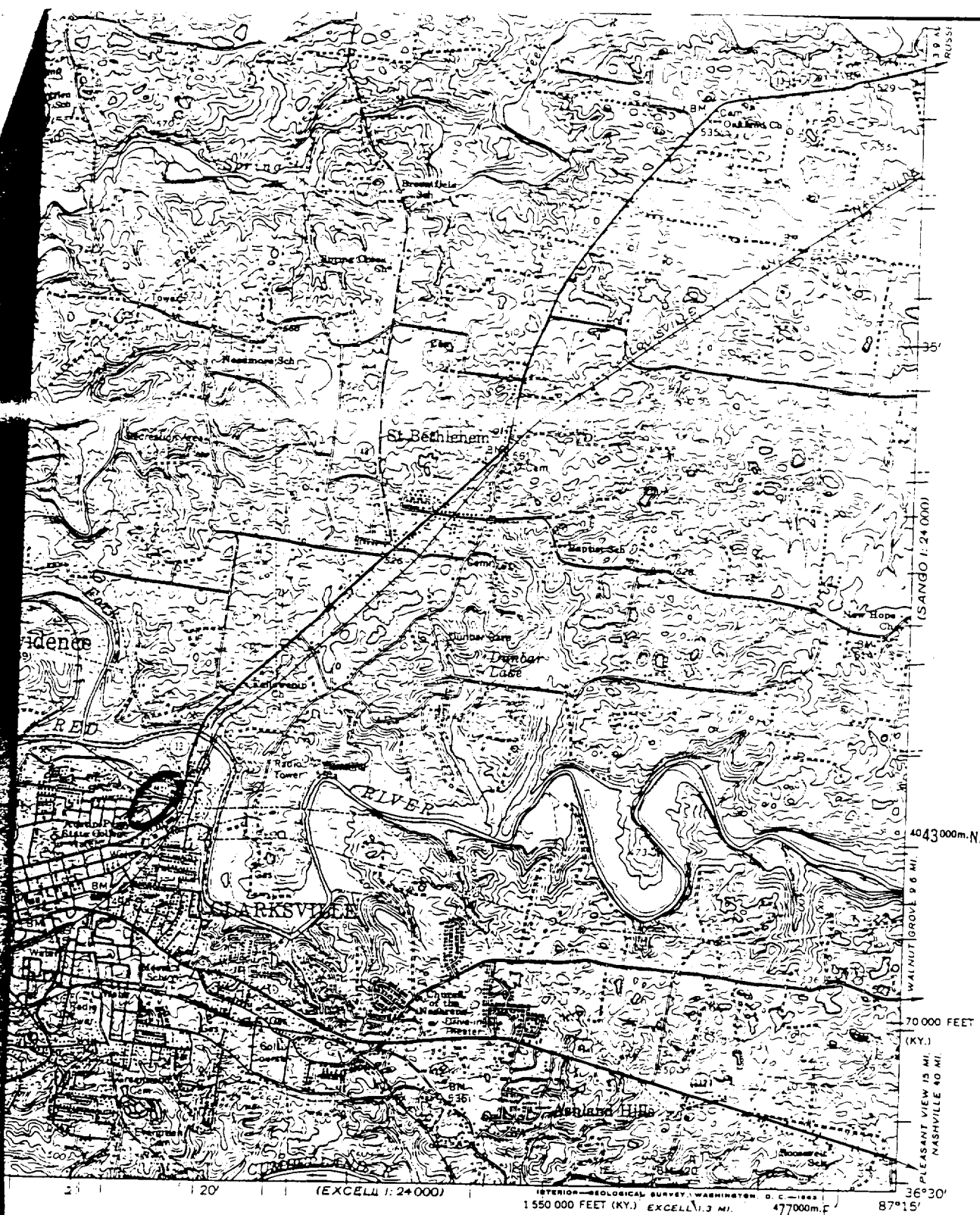
☐ ALLEGED

35 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

36 TOTAL POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_

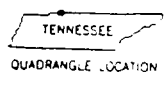
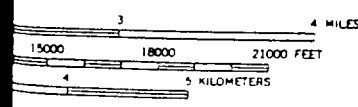
37 COMMENTS

38 SOURCES OF INFORMATION (Can specify references, e. g., state files, various agencies, reports)



VULCAN

(HENRIETTA 1:24,000)



ROAD CLASSIFICATION  
 Heavy-duty ——— Light-duty ———  
 Medium-duty ——— Unimproved dirt ———  
 U.S. Route State Route

This area also covered by 7.5-minute, 1:24,000-scale maps: Mammothville, Oak Grove, New Providence, and Clarksville 1957

CLARKSVILLE, TENN. - KY.  
 N3630-W8715/15

1957

ROADS  
 ON 25, D. C.  
 TENNESSEE,  
 KENTUCKY,  
 FRANKFORT, KENTUCKY  
 AVAILABLE ON REQUEST





TELEPHONE CONTACT SUMMARY

DYNAMAC CORPORATION

CALL MADE BY: Sandra J. Harrigan  
DATE: May 16, 1994  
TIME: 11:55 am

SIGNATURE/DATE *Sandra J. Harrigan*  
SITE: Vulcan Corporation  
EPA ID NO. TND057874125

*5/16/94*

PERSON CONTACTED: NAME Donna Wallace  
TITLE Billing Clerk  
PHONE (615) 645-7400  
ORGANIZATION Clarksville Gas and Water

GENERAL SUBJECT: Connections served by the Clarksville Gas and Water (CGW).

DISCUSSION:

Ms. Wallace stated that CGW serves both inside and outside the city limits of Clarksville. CGW sells water to several water companies outside the city limits. CGW serves a total of 30,000 connections which includes residential and industrial customers inside and outside the city limits of Clarksville. I asked Ms. Wallace if CGW serves Fort Campbell Military Reservation (FCMR); Ms. Wallace replied that FCMR has its own water system. Ms. Wallace referred and transferred me to Mr. Richard Woodroof for information about the service area.

Mr. Richard Woodroof, Civil Engineer, said that he did not have any information regarding service area; he referred me to Mr. Richard Kraeske at the Water Plant. Mr. Kraeske's telephone number is (615) 553-2440.

TELEPHONE CONTACT SUMMARY

DYNAMAC CORPORATION

CALL MADE BY: Sandra J. Harrigan  
DATE: May 16, 1994  
TIME: 12:15 pm

SIGNATURE/DATE: *Sandra J. Harrigan*  
SITE: Vulcan Corporation  
EPA ID NO. TND057874125

5/16/94

PERSON CONTACTED: NAME Richard Kraeske  
TITLE Superintendent  
PHONE (615) 553-2440  
ORGANIZATION Clarksville Gas and Water, Water Plant

GENERAL SUBJECT: Service area and source of the Clarksville Gas and Water (CGW).

DISCUSSION:

Mr. Kraeske said that CGW obtains its potable water from a surface water intake on the Cumberland River at approximately river mile 133. Mr. Kraeske did not have any information regarding the flow rate at the intake. He told me that the Corps of Engineering would have that information. Mr. Kraeske described the service areas of CGW; they are as follows:

- \* CGW serves all areas inside the city limits of Clarksville and some areas outside the city limits.
- \* CGW sells water to Cumberland Heights, Kirkwood, and Dotsonville. Mr. Kraeske did not know the number connections served by the water companies that CGW sells water to.
- \* Highways (Hwys.) 12 and 41 - service extends to the Kentucky border.
- \* Hwys. 41, 12, 112 and 76 south/southeast - service extends approximately 5 to 8 miles.
- \* Hwys. 13, 79 and 48 east - service extends approximately 12 miles.
- \* Hwys. 76 and 79 west - service extends approximately 8 miles.
- \* Hwys. 48 and 13 south - service extends approximately 2 miles; service stops at the Cumberland River.
- \* All major streets (outside the Clarksville city limits) depicted on the topographic map are served by CGW; for example, Peachers Mill and Dotosnville Roads.

R. Kraeske  
P. 2

~~8/15~~  
5/16/94

I asked Mr. Kraeske about private wells in the area. Mr. Kraeske replied that there are some private wells in the rural areas, but they may not be used for drinking water because CGW has water lines in those areas.

# **National Water Summary 1984**

**Hydrologic Events,  
Selected Water-Quality Trends,  
and Ground-Water Resources**

*By United States Geological Survey*

**United States Geological Survey  
Water-Supply Paper 2275**

Table 2. Aquifer and well characteristics in Tennessee

[Ft = feet; gal/min = gallons per minute; Sources: Reports of the U.S. Geological Survey and Tennessee State agencies]

Aquifer name and description	Well characteristics				Remarks
	Depth (ft)		Yield (gal/min)		
	Common range	May exceed	Common range	May exceed	
Alluvial aquifer: Sand, gravel, and clay. Unconfined.	10 – 75	100	20 – 50	1,500	Large iron concentrations in some areas. Local contamination at some landfills.
Tertiary sand aquifer: A multiaquifer unit of interbedded sand, clay, silt, and some gravel and lignite. Confined, unconfined in the outcrop area.	100 – 1,300	1,500	200 – 1,000	2,000	Includes Memphis Sand of Claiborne Group and Fort Pillow Sand of Wilcox Group. Problems with large iron concentration in some places.
Cretaceous sand aquifer: A multiaquifer unit of interbedded sand, clay, marl, and gravel. Confined, unconfined in the outcrop area.	100 – 1,500	2,500	50 – 500	1,000	Includes McNairy and Coffee Sands, and Tuscaloosa Formation. Water used primarily in the outcrop area.
Pennsylvanian sandstone aquifer: A multiaquifer unit, primarily sandstone and conglomerate, interbedded with shale and some coal. Unconfined near land surface, confined at depth.	100 – 200	250	5 – 50	200	Permeability is from fractures, faults and bedding-plane openings. Principal water-bearing units are Rockcastle Sandstone and Sewanee Conglomerate. Large iron concentrations are a problem.
Mississippian carbonate aquifer: A multiaquifer unit of limestone, dolomite, and some shale. Unconfined or partly confined near land surface; may be confined at depth.	50 – 200	250	5 – 50	400	Water occurs in solution openings and bedding-plane openings. Principal water-bearing units are Ste. Genevieve (Monteagle), St. Louis and Warsaw Limestones and Fort Payne Formation. Susceptible to pollution. Water generally hard; large iron, sulfide, or sulfate concentrations problems in some areas.
Ordovician carbonate aquifer: A multiaquifer unit of limestone, dolomite, and shale. Partly confined to unconfined near land surface; confined at depth.	50 – 150	200	5 – 20	300	Principal water-bearing units are Bigby, Carters, Ridley, and Murfreesboro Limestones. Water generally hard; some large sulfide or sulfate concentrations in places. Units susceptible to contamination.
Knox aquifer: Primarily dolomite. With some limestone. Confined.	700 – 1,200	1,400	1 – 10	20	A deep aquifer; occurs under most of Middle and west Tennessee. Away from Central Basin, water generally has large concentrations of dissolved solids.
Cambrian-Ordovician carbonate aquifer: Extremely faulted multiaquifer unit of limestone, dolomite, sandstone, and shale; structurally complex. Unconfined; confined at depth.	100 – 300	400	5 – 200	2,000	Principal water-bearing units are carbonate rocks in Chickamauga Limestone, Knox Group, and Honaker Dolomite. Water is generally hard. Brine below 3,000 ft.
Crystalline rock aquifer: A multi-aquifer unit of dolomite, granite gneiss, phyllite, and metasedimentary rocks overlain by thick regolith; alluvium and colluvium in some valleys. Generally unconfined.	50 – 150	200	5 – 50	1,000	Large yields occur primarily in valleys with dolomite or deep colluvium and alluvium. Shady Dolomite is a principal aquifer. Low pH and large iron concentrations may be problems in some areas.

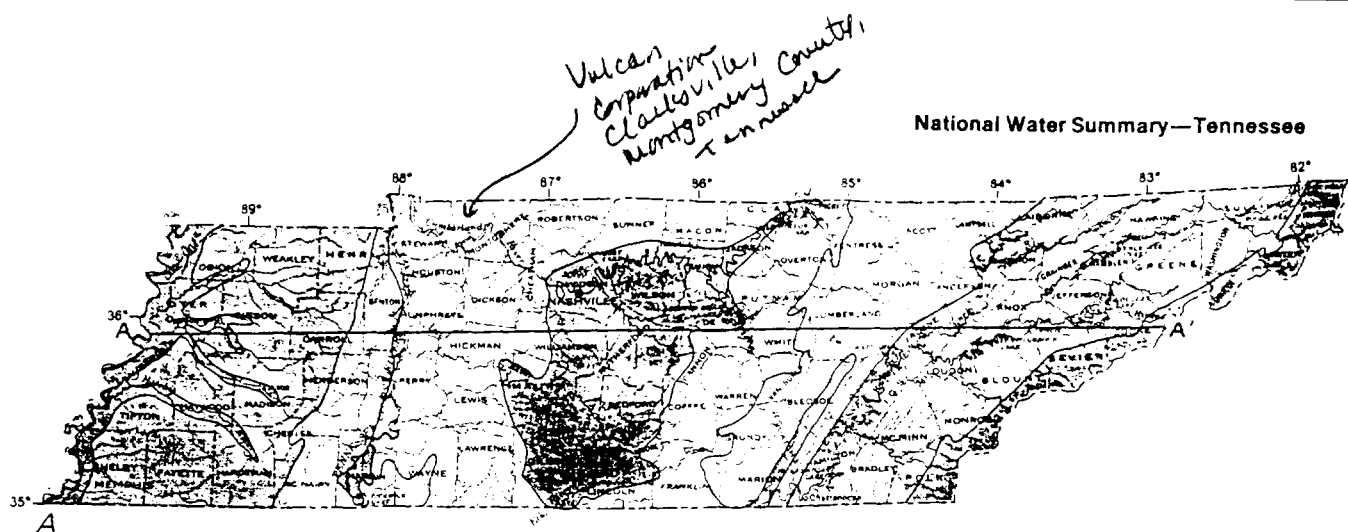
### CRETACEOUS SAND AQUIFER

The formations of the Cretaceous sand aquifer are the McNairy and the Coffee Sands, and the Tuscaloosa Formation. The formations crop out in the eastern part of the Coastal Plain and underlie the Tertiary sand aquifer to the west. The Cretaceous sand aquifer is used primarily in and near the outcrop area where it supplies water for municipal, industrial, and rural use. Water in the aquifer is unconfined in the outcrop area and confined in the subsurface farther west.

The Cretaceous sand aquifer is underlain by the Ordovician carbonate aquifer and Knox aquifer.

### PENNSYLVANIAN SANDSTONE AQUIFER

The Pennsylvanian sandstone aquifer in the eastern part of Tennessee includes sandstone and conglomerate. The water-bearing openings in these rocks consist of fractures, faults, and bedding-plane openings. Well yields generally are 5 to 50 gal/min, although some wells produce more than 200



## EXPLANATION

- |  |                                 |  |                                       |
|--|---------------------------------|--|---------------------------------------|
|  | Alluvial aquifer                |  | Ordovician carbonate aquifer          |
|  | Tertiary sand aquifer           |  | Knox aquifer                          |
|  | Cretaceous sand aquifer         |  | Cambrian—Ordovician carbonate aquifer |
|  | Pennsylvanian sandstone aquifer |  | Crystalline rock aquifer              |
|  | Mississippian carbonate aquifer |  |                                       |
- A—A' Trace of cross section

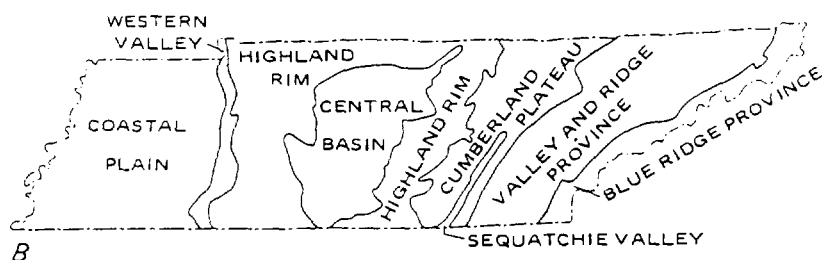
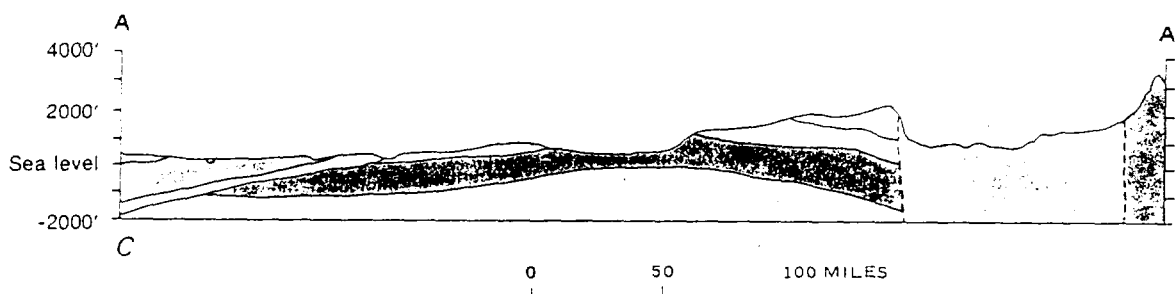


Figure 1. Principal aquifers in Tennessee. A, Geographic distribution. B, Physiographic diagram and divisions. C, Generalized cross section (A-A'). (See table 2 for a more detailed description of the aquifers. Sources: A, Miller, 1974; B, Fenneman, 1946; Raisz, 1954; Miller, 1974; C, Compiled by M. W. Bradley from U.S. Geological Survey files.)

gal/min. Sandstone and conglomerate, particularly the Rockcastle Sandstone and Sewanee Conglomerate, supply most of the water used for rural-domestic supplies. Iron concentrations of greater than 1.0 mg/L and pH of less than 6.0 are problems in some areas.

#### \* MISSISSIPPIAN AND ORDOVICIAN CARBONATE AQUIFERS

The formations that comprise the Mississippian carbonate aquifer in the Highland Rim and the Ordovician carbonate aquifer in the Central Basin are primarily limestone and dolomite, with small amounts of shale. Water in these carbonate aquifers occurs in solution-enlarged openings and is confined to partly confined near land surface; water may be confined at depth. These aquifers are important sources of drinking water for rural users and some public supplies.

The Mississippian carbonate and Ordovician carbonate aquifers are connected to land surface by caves and sinkholes in many areas and are susceptible to contamination. In general, the water hardness exceeds 200 mg/L as calcium carbonate. In the Highland Rim, iron and sulfate concentrations in water from the Mississippian carbonate aquifer may exceed 0.30 and 500 mg/L, respectively. The odor of sulfide is detectable in water from some wells.

The principal water-bearing formations of the Mississippian carbonate aquifer are the Ste. Genevieve (Monteagle), the St. Louis, and the Warsaw Limestones and the Fort Payne Formation. The regolith that overlies the Mississippian carbonate aquifer commonly is 30 to 100 ft thick, stores ground water, and releases it to openings in the underlying bedrock. In some areas of the southeastern Highland Rim, the Mississippian carbonate aquifer contains gravel zones in the regolith that yield as much as 400 gal/min to wells.

The principal water-bearing formations of the Ordovician carbonate aquifer are the Bigby, the Carters, the Ridley, and the Murfreesboro Limestones. The regolith that overlies this aquifer commonly is less than 10 ft thick. Some well yields exceed 300 gal/min.

#### KNOX AQUIFER

The Knox aquifer underlies Middle Tennessee and parts of West Tennessee. Water in the aquifer flows through interconnected solution openings and along bedding planes in the upper two formations of the Knox Group at depths of 800 to 1,500 ft. Although the aquifer is not a principal aquifer in terms of significant numbers of users or in providing large amounts to single users, it does provide water for rural-domestic use where ground water cannot be obtained at shallower depths. Sulfate concentrations that exceed 500 mg/L and sulfide gas are problems in some areas. Dissolved-solids concentrations in water from the Knox aquifer may exceed 10,000 mg/L in areas outside the Central Basin.

#### CAMBRIAN-ORDOVICIAN CARBONATE AQUIFER

The Cambrian-Ordovician carbonate aquifer provides water for some cities and industries and practically all rural-domestic use in the Valley and Ridge province of East Tennessee. The aquifer consists of extensively faulted limestone, dolomite, sandstone, and shale. The principal water-bearing units are carbonate rocks of the Chickamauga Limestone, the Knox Group, and the Honaker Dolomite of the Conasauga Group. Major pumping centers in this aquifer are Chattanooga, Elizabethton, and Jefferson City (fig. 2). Some wells that penetrate large, extensive, and interconnected solution openings yield as much as 2,000 gal/min. The hardness of the water in the Cambrian-Ordovician carbonate aquifer general-

ly exceeds 200 mg/L as calcium carbonate. Brines may be present below a depth of 3,000 feet.

#### CRYSTALLINE ROCK AQUIFER

The crystalline rock aquifer of the Blue Ridge province supplies water for industrial, some municipal, and most rural purposes. The water-bearing units consist of dolomite such as the Shady Dolomite; fractured igneous, metamorphic, and metasedimentary rocks; and, in some areas, regolith. Wells and springs in dolomite yield more than 1,000 gal/min (Malay, 1962). Wells in the igneous and metamorphic rocks yield 5 to 50 gal/min from fractures. Some wells in regolith, which is present in some valleys, yield more than 100 gal/min. Iron concentrations that exceed 1.0 mg/L and pH of less than 6.0 are problems in several areas in the Blue Ridge province.

#### GROUND-WATER WITHDRAWALS AND WATER-LEVEL TRENDS

Of the 34 pumping centers in Tennessee that produce more than 1 Mgal/d, 20 of these are in West Tennessee. Statewide, there are 12 pumping centers that withdraw more than 3 Mgal/d each (fig. 2). The largest ground-water withdrawals are in Memphis and surrounding Shelby County (locations 1-3, fig. 2) where more than 190 Mgal/d is withdrawn for public and industrial use. In East Tennessee, areas of large ground-water withdrawals are Elizabethton (location 12, fig. 2), Jefferson City (location 10, fig. 2), and the Chattanooga area (locations 8, 9, fig. 2).

Hydrographs from wells near Memphis (locations 1, 2, fig. 2) show fluctuations in water levels that result from changes in pumpage. Water levels in the Memphis Sand (Claiborne Group) of the Tertiary sand aquifer have declined in response to yearly increases in pumpage since about 1950 (location 1, fig. 2); however, water levels remain above the top of the aquifer and represent a decline in artesian head rather than a dewatering of the aquifer. The Fort Pillow Sand (Wilcox Group) of the Tertiary sand aquifer, underlying the Memphis Sand, was pumped intensively between 1945 and about 1962. During this period, the water level in this part of the Tertiary sand aquifer declined about 45 ft (location 2, fig. 2). Since 1962, pumpage has decreased, and water levels have recovered about 20 ft. Pumpage at Jackson, primarily from the Wilcox Group, has increased steadily to more than 13 Mgal/d, and water levels have declined since the 1950's (location 7, fig. 2). In the rest of West Tennessee, long-term water levels show only seasonal fluctuations, as typified by the hydrograph for a well in Dyersburg (location 4, fig. 2).

Ground-water levels in Middle and East Tennessee have not been affected significantly by pumping. The well in the Chattanooga area (location 9, fig. 2) is near a well field that is withdrawing about 0.5 Mgal/d. Water levels fluctuate almost daily in response to changes in pumping but do not show long-term declines. Water levels were lowest during the dry years from 1979 through 1981 but have recovered during subsequent years of normal rainfall. The hydrograph for the well near Elizabethton (location 12, fig. 2) also shows the effect of the drought, but no long-term declines.

#### GROUND-WATER MANAGEMENT

The Tennessee Department of Health and Environment, Office of Water Management, is responsible for ground-water management. The Groundwater Protection Division issues licenses to qualified well-drilling contractors, requires conformance with well-construction regulations, and receives reports of well completions as mandated by the Water Well Drillers

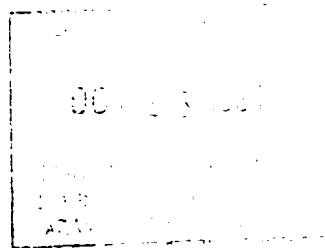


1990 CPH-1-44

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1990 Census of  
Population and Housing  
Summary Population and  
Housing Characteristics  
**Tennessee**

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Issued August 1991



U.S. Department of Commerce  
Robert A. Mosbacher, Secretary  
Rockwell A. Schnabel, Deputy Secretary

Economics and Statistics Administration  
Michael R. Darby, Under Secretary  
for Economic Affairs and Administrator

BUREAU OF THE CENSUS  
Barbara Everitt Bryant, Director

Table 6. Household, Family, and Group Quarters Characteristics: 1990

(For definitions of terms and meanings of symbols see text)

State County Place and [In Selected States] County Subdivision	Family households					Nonfamily households				Persons per —		Persons in group quarters		
	Persons in households	All house- holds	Total	Married- couple family	Female house- holder no husband present	Total	Householder living alone			Household	Family	Total	Institu- tionalized persons	Other per- sons in group quarters
							65 years and over							
							Total	Female						
The State	4 748 056	1 853 725	1 348 019	1 059 569	232 699	505 706	442 129	178 077	143 105	2.56	3.05	129 129	65 389	63 740
COUNTY														
Anderson County	67 595	27 384	19 846	16 181	2 958	7 538	6 911	3 117	2 547	2.47	2.96	655	578	77
Bedford County	30 031	11 608	8 768	7 087	1 289	2 840	2 536	1 290	1 017	2.59	3.01	380	343	37
Benton County	14 255	5 784	4 333	3 732	465	1 451	1 349	751	603	2.46	2.90	269	228	41
Bledsoe County	8 608	3 261	2 522	2 104	300	739	670	320	240	2.64	3.06	1 061	1 051	10
Blount County	84 463	33 624	25 344	21 284	3 237	8 280	7 400	3 267	2 661	2.51	2.94	1 506	1 044	462
Bradley County	72 043	27 604	21 157	17 518	2 841	6 447	5 714	2 277	1 826	2.61	3.02	1 669	539	1 130
Campbell County	34 783	13 150	10 158	8 036	1 702	2 992	2 789	1 496	1 192	2.65	3.07	296	285	11
Cannon County	10 356	3 980	3 035	2 574	351	945	872	470	375	2.60	3.03	111	111	—
Carroll County	26 860	10 727	8 013	6 612	1 092	2 714	2 531	1 435	1 148	2.50	2.95	654	388	266
Carter County	50 225	20 189	14 979	12 283	2 114	5 210	4 779	2 314	1 839	2.49	2.94	1 280	749	531
Cheatham County	26 840	9 515	7 748	6 679	776	1 767	1 524	587	436	2.82	3.15	300	180	120
Chester County	11 791	4 558	3 505	2 933	446	1 053	963	514	422	2.59	3.01	1 028	187	841
Clatsop County	25 533	9 629	7 579	6 266	1 007	2 050	1 910	935	772	2.65	3.05	604	210	394
Clay County	7 158	2 855	2 144	1 748	301	711	649	318	214	2.51	2.93	80	71	9
Cocke County	28 840	11 191	8 483	6 551	1 500	2 708	2 470	1 138	882	2.58	3.00	301	270	31
Coffee County	39 855	15 500	11 727	9 693	1 556	3 773	3 431	1 588	1 264	2.57	3.01	484	452	32
Crocket County	13 103	5 183	3 856	3 141	567	1 327	1 257	766	623	2.53	3.00	275	275	—
Cumberland County	34 207	13 426	10 451	8 842	1 265	2 975	2 688	1 299	1 026	2.55	2.92	529	529	—
Davidson County	489 689	207 530	131 395	95 592	29 555	76 135	62 830	18 268	14 969	2.36	2.97	21 095	10 317	10 778
Decatur County	10 330	4 216	3 109	2 603	391	1 107	1 032	607	461	2.45	2.91	142	142	—
DeKalb County	14 237	5 696	4 316	3 574	584	1 380	1 293	692	563	2.50	2.93	123	106	17
Dickson County	34 532	13 019	10 099	8 188	1 510	2 920	2 648	1 285	1 007	2.65	3.06	529	389	140
Dyer County	34 343	13 617	9 923	7 869	1 643	3 694	3 360	1 773	1 435	2.52	3.01	511	474	37
Fayette County	25 110	8 453	6 717	5 038	1 334	1 736	1 576	765	556	2.97	3.40	449	436	13
Fentress County	14 559	5 511	4 258	3 415	565	1 253	1 165	585	439	2.64	3.07	110	110	—
Franklin County	33 429	12 660	9 883	8 412	1 335	2 777	2 530	1 312	1 061	2.64	3.04	1 296	314	982
Gibson County	45 568	18 361	13 472	10 708	2 248	4 889	4 573	2 560	2 114	2.48	2.95	747	644	103
Giles County	25 336	9 832	7 454	6 038	1 116	2 378	2 218	1 166	891	2.58	3.02	405	205	200
Greene County	16 912	6 394	5 076	4 281	591	1 318	1 217	590	459	2.64	3.02	183	146	37
Grundy County	54 175	21 482	16 280	13 290	2 295	5 202	4 747	2 120	1 687	2.52	2.94	1 678	727	951
Hamblen County	13 157	4 784	3 743	3 048	534	1 041	976	522	412	2.75	3.18	205	193	12
Hamilton County	49 750	19 429	14 795	11 895	2 314	4 634	4 138	1 629	1 313	2.56	2.97	730	525	205
Hancock County	279 944	111 799	78 964	50 790	5 242	32 835	29 025	11 581	9 488	2.50	3.02	6 492	3 622	2 870
Hart County	6 571	2 484	1 924	1 505	321	560	532	269	212	2.65	3.07	168	168	—
Hartman County	22 589	8 276	6 190	4 356	1 356	2 086	1 887	968	751	2.73	3.22	788	770	18
Hawkins County	22 350	9 726	6 533	5 490	382	2 093	1 940	978	764	2.56	3.00	283	263	20
Henderson County	44 232	17 167	13 223	11 000	524	3 944	3 639	1 671	1 334	2.58	2.99	333	299	34
Henry County	19 240	7 014	5 150	3 566	320	1 864	1 708	905	703	2.74	3.29	197	179	138
Hickman County	21 630	8 527	6 466	5 393	320	2 061	1 922	975	765	2.54	2.97	214	212	2
Hopkins County	27 456	11 362	8 216	6 743	1 126	3 146	2 902	1 619	1 282	2.42	2.89	432	388	44
Houston County	15 715	5 976	4 608	3 883	526	1 368	1 229	619	505	2.63	3.04	1 039	1 039	—
Hughes County	6 842	2 683	2 039	1 705	261	644	604	335	248	2.55	2.98	176	163	13
Humphreys County	15 551	6 063	4 593	3 844	561	1 470	1 373	665	514	2.56	3.01	244	110	134
Jackson County	9 176	3 642	2 782	2 303	334	860	806	475	358	2.52	2.94	121	119	2
Jefferson County	31 415	12 329	9 510	8 018	1 144	2 819	2 530	1 192	940	2.55	2.94	1 601	445	1 156
Johnson County	13 609	5 406	4 081	3 260	599	1 325	1 230	618	464	2.52	2.95	157	145	12
Knox County	323 400	133 639	90 561	71 679	15 478	43 078	36 661	12 962	10 642	2.42	2.97	12 369	3 288	9 661
Lake County	6 057	2 418	1 735	1 328	323	683	625	343	262	2.50	3.00	1 072	1 051	21
Lauderdale County	22 598	8 423	6 351	4 846	1 259	2 072	1 898	1 059	842	2.68	3.15	893	884	9
Lawrence County	34 992	13 338	10 265	8 665	1 291	3 073	2 884	1 596	1 317	2.62	3.06	311	302	9
Lewis County	9 098	3 533	2 606	2 179	328	927	859	451	353	2.58	3.06	149	136	13
Lincoln County	27 910	10 881	8 230	6 312	1 097	2 651	2 455	1 376	1 090	2.57	3.01	247	239	8
Loudon County	30 926	12 155	9 289	7 687	1 301	2 866	2 635	1 237	1 005	2.54	2.96	329	329	—
McMinn County	41 710	16 351	12 458	10 275	1 751	3 893	3 600	1 755	1 425	2.55	2.98	673	446	227
McNairy County	22 180	8 834	6 678	5 592	824	2 156	2 014	1 073	863	2.51	2.95	242	242	—
Madison County	15 817	6 159	4 711	4 027	522	1 448	1 356	707	577	2.57	3.00	89	89	33
Marion County	75 515	29 609	21 301	15 750	4 504	8 308	7 397	3 206	2 554	2.55	3.06	2 467	841	1 626
Marshall County	24 645	9 215	7 171	5 838	1 032	2 044	1 873	963	761	2.67	3.08	215	205	10
Marshall County	21 248	8 268	6 120	4 950	981	2 148	1 954	989	779	2.57	3.04	291	229	62
Mary County	54 073	20 608	15 552	12 280	2 622	5 056	4 554	2 052	1 680	2.52	3.07	739	688	51
Meigs County	7 921	2 996	2 333	1 958	261	663	592	255	194	2.64	3.03	112	112	—
Monroe County	29 940	11 363	8 781	7 231	1 163	2 582	2 385	1 167	917	2.63	3.06	601	317	284
Montgomery County	93 516	34 345	26 914	22 284	3 712	7 431	6 208	2 071	1 628	2.72	3.09	6 982	472	6 510
Moore County	4 714	1 734	1 391	1 222	112	343	327	169	136	2.72	3.11	7	7	—
Morgan County	16 011	5 841	4 621	3 745	680	1 220	1 119	558	432	2.74	3.13	1 289	1 289	—
Obion County	31 399	12 412	9 219	7 624	1 279	3 193	2 950	1 598	1 290	2.53	3.00	318	298	20
Overton County	17 435	6 734	5 266	4 404	645	1 468	1 368	745	581	2.59	2.99	201	192	9
Perry County	6 460</													

TELEPHONE CONTACT SUMMARY

DYNAMAC CORPORATION

CALL MADE BY: Sandra J. Harrigan  
DATE: May 23, 1994  
TIME: 9:35 am

SIGNATURE/DATE: *Sandra J. Harrigan*  
SITE: Vulcan Corporation  
EPA ID NO. TND057874125

5/23/94

PERSON CONTACTED: NAME Van Medlock  
TITLE Fishery Biologist  
PHONE (615) 741-7391  
ORGANIZATION Tennessee Department of Environment and  
Conservation, Division of Water Pollution Control

GENERAL SUBJECT: Fishing on the Cumberland and Red Rivers.

DISCUSSION:

Mr. Medlock stated that no precautionary measures or fish tissue advisories are posted for the Cumberland and Red Rivers. This means that fishing is permitted along those surface water bodies. No PCBs, organic and inorganic contaminants with carcinogenic effects were detected in those surface water bodies.

the **SOUTHEAST**  
UNITED STATES

U.S. FISH & WILDLIFE SERVICE

"The Red Book"

**REGION 4**  
**ATLANTA**  
**GEORGIA**

9300991

**ENDANGERED AND THREATENED SPECIES**  
**OF THE**  
**SOUTHEASTERN UNITED STATES**  
**(THE RED BOOK)**

Introduction Section, Volume 1

Prepared by:

U.S. Fish and Wildlife Service  
Southeast Region  
Atlanta, Georgia

January 1992

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4/27/93

Federally Listed Species by State

TENNESSEE

(E=Endangered; T=Threatened; CH=Critical Habitat determined)

<u>Mammals</u>	<u>General Distribution</u>
Bat, gray ( <u>Myotis grisescens</u> ) - E	Entire State
Bat, Indiana ( <u>Myotis sodalis</u> ) - E, CH	Central, East
Cougar, eastern ( <u>Felis concolor couguar</u> ) - E	North, East
Panther, Florida ( <u>Felis concolor coryi</u> ) - E	Southwest
Squirrel, Carolina northern flying ( <u>Glaucomys sabrinus coloratus</u> ) - E	Eastern mountains (Carter and Sevier Counties)
<u>Birds</u>	
Eagle, bald ( <u>Haliaeetus leucocephalus</u> ) - E	Entire State
Falcon, American peregrine ( <u>Falco peregrinus anatum</u> ) - E	East, Central, Extreme Northwest
Falcon, Arctic peregrine ( <u>Falco peregrinus tundrius</u> ) - T	Entire State (mostly West)
Tern, least ( <u>Sterna antillarum</u> ) interior population - E	Mississippi River West
Warbler, Bachman's ( <u>Vermivora bachmanii</u> ) - E	Extreme Northeast
Warbler, Kirtland's ( <u>Dendroica kirtlandii</u> ) - E	Extreme West
Woodpecker, ivory-billed ( <u>Campephilus principalis</u> ) - E	East
Woodpecker, red-cockaded ( <u>Picoides [=Dendrocopos] borealis</u> ) - E	
<u>Fishes</u>	
Chub, slender ( <u>Hybopsis cahni</u> ) - T,CH	Hancock, Claiborne, Grainger Counties
Chub, spotfin ( <u>Hybopsis monacha</u> ) - T,CH	Hawkins, Sullivan, Morgan, Fentress, and Cumberland Counties
Dace, blackside ( <u>Phoxinus cumberlandensis</u> ) - T	Upper Cumberland River System (Scott, Campbell, and Claiborne Counties)
Darter, amber ( <u>Percina antesella</u> ) - E,CH	Conasauga R., Polk County

TENNESSEE (Cont'd)

General Distribution

Darter, boulder ( <u>Etheostoma</u> [ <u>Nothonotus</u> sp.]) - E	Lower Elk River System, Giles County
Darter, duskytail ( <u>Etheostoma</u> [ <u>catonotus</u> ] sp. - E	Little River, Blount County; Citico Creek, Monroe County; Big South Fork Cumberland River, Scott County
Darter, slackwater ( <u>Etheostoma</u> <u>boschungii</u> ) - T,CH	Wayne and Lawrence Counties
Darter, snail ( <u>Percina tanasi</u> ) - T	Knox, Loudon, Meigs, Polk, Bradley/McMinn, Hamilton, Marion, and Giles Counties
Logperch, Conasauga ( <u>Percina jenkinsi</u> ) - E,CH	Conasauga River, Polk County
Madtom, pygmy ( <u>Noturus stanauli</u> ) - E	Duck River, Humphreys County; Clinch River, Hancock County
Madtom, smoky ( <u>Noturus bailey</u> ) - E,CH	Citico Creek, Monroe County
Madtom, yellowfin ( <u>Noturus flavipinnis</u> ) - T,CH	Claiborne and Hancock Counties; Monroe County (Citico Creek)
Shiner, blue ( <u>Cyprinella caerulea</u> ) - T	Conasauga River and Minnewauga Creek
Shiner palezone ( <u>Notropis</u> ) sp. cf. <u>procne</u> ) - E	Clinch River drainage, Campbell County
<u>Mollusks</u>	
Clubshell, southern ( <u>Pleurobema decisum</u> ) - E	Coosa River and tributaries
Kidneyshell, triangular ( <u>Ptychobranhus greeni</u> ) - E	Coosa drainage in the Conasauga River
Moccasinshell, Coosa ( <u>Medionidus acutissimus</u> ) - E	Conasauga River
Mussel, Alabama lamp pearly ( <u>Lampsilis virescens</u> ) - E	Estill Fork, Franklin County

TENNESSEE (Cont'd)

State Lists 4/27/93

General Distribution

Mussel, Appalachian monkeyface pearly ( <u>Quadrula sparsa</u> ) - E	Powell River
Mussel, birdwing pearly ( <u>Conradilla caelata</u> ) - E	Powell, Clinch, Elk and Duck Rivers
Mussel, Cumberland bean pearly ( <u>Villosa trabilis</u> ) - E	Big S. Fork of Cumberland River
Mussel, Cumberland monkeyface pearly ( <u>Quadrula intermedia</u> ) - E	Elk, Powell and Duck Rivers
Mussel, Cumberland pigtoe ( <u>Pleurobema gibberum</u> ) - E	Caney Fork River System
Mussel, dromedary pearly ( <u>Dromus dromas</u> ) - E	Powell, Clinch, Cumberland and Tennessee Rivers
Mussel, fine-rayed pigtoe pearly ( <u>Fusconaia cuneolus</u> ) - E	Powell, Clinch, Elk, Sequatchie, N. Fork Holston and Little Rivers
Mussel, green-blossom pearly ( <u>Epioblasma [=Dysnomia] torulosa gubernaculum</u> ) - E	Clinch River
Mussel, little-wing pearly ( <u>Pegias fabula</u> ) - E	Cave Creek
Mussel, orange-footed pearly ( <u>Plethobasus cooperianus</u> ) - E	Tennessee and Cumberland Rivers
Mussel, pale lilliput pearly ( <u>Toxolasma [=Carunculina] cylindrella</u> ) - E	Historic; no recent TN records
Mussel, pink mucket pearly ( <u>Lampsilis orbiculata</u> ) - E	Tennessee, Clinch and Cumberland Rivers
Mussel, rough pigtoe pearly ( <u>Pleurobema plenum</u> ) - E	Clinch, Cumberland and Tennessee Rivers
Mussel, shiny pigtoe pearly ( <u>Fusconaia edgariana</u> ) - E	Powell, Clinch and Elk Rivers
Mussel, tan riffle shell ( <u>Epioblasma [=Dysnomia] walkeri</u> ) - E	Historic; no recent TN records



TENNESSEE (Cont'd)

State Lists 4/27/93

General Distribution

Mussel, tubercled-blossom pearly ( <u>Epioblasma</u> [=Dysnomia] <u>torulosa</u> <u>torulosa</u> ) - E	Possibly extinct
Mussel, turgid-blossom pearly ( <u>Epioblasma</u> [=Dysnomia] <u>turgidula</u> ) - E	Possibly extinct
Mussel, white warty-back pearly ( <u>Plethobasus</u> <u>cicatricocus</u> ) - E	Tennessee River
Mussel, yellow-blossom pearly ( <u>Epioblasma</u> [=Dysnomia] <u>florentina</u> <u>florentina</u> ) - E	Possibly extinct
Pigtoe, southern ( <u>Pleurobema</u> <u>georgianum</u> ) - E	Upper Conasauga River
Pocketbook, fine-lined ( <u>Lampilis</u> <u>altilis</u> ) - T	Conasauga River
Snail, Chittenango ovate amber ( <u>Succinea</u> <u>chittenangoensis</u> ) - T	Monroe County
Snail, painted snake coiled forest ( <u>Anquispira</u> <u>picta</u> ) - T	Franklin County
<u>Arthropods:</u>	
Crayfish, Nashville ( <u>Orconectes</u> <u>shoupi</u> ) - E	Mill Creek, Davidson and Williamson Counties
<u>Plants</u>	
<u>Apios</u> <u>priceana</u> (Price's potato-bean) - T	Marion, Montgomery, and Williamson Counties
<u>Arenaria</u> <u>cumberlandensis</u> (Cumberland sandwort) - E	Cumberland plateau north central (Fentress, Morgan, Pickett, and Scott Counties)
<u>Conradina</u> <u>verticillata</u> (Cumberland rosemary) - T	Big South Fork Cumberland River, Morgan, Scott, and Fentress Counties; Caney Fork River, Cumberland and White Counties; Obed River System, Morgan and Cumberland Counties
<u>Astragalus</u> <u>bibullatus</u> (Guthrie's ground-plum) - E	Rutherford County
<u>Dalea</u> <u>foliosa</u> (=Petalostanum <u>foliosum</u> ) - (Leafy prairie clover) - E	Rutherford, Wilson, Marshall, Bedford, Davidson, Williamson, and Maury Counties
<u>Echinacea</u> <u>tennesseensis</u> (Tennessee coneflower) - E	Davidson, Rutherford, Wilson Counties

TENNESSEE (Cont'd)

State Lists 4/27/93

Isotria medeoloides (small whorled  
pogonia) - E  
Phyllitis scolopendrium var. Americana  
(American Hart's Tongue Fern) - T  
Pityopsis ruthii (Ruth's golden aster) - E  
Scutellaria montana (large-flowered  
skullcap) - E

Solidago spithamea (Blue Ridge  
goldenrod) - T

Spiraea virginiana - T  
(Virginia spiraea)

Xyris Tennesseeensis (Tennessee yellow-eyed  
grass) - E

General Distribution

Hamilton County

Marion County

Polk County

Hamilton and Marion  
Counties

Carter County

Nolichucky River, Unicol  
County; Abrams Creek and  
Little River, Blount  
County; Cane Creek, Van  
Buren County; White Oak  
Creek, Scott County;  
Clifty Creek in Roane  
County; Daddy's Creek in  
Cumberland County; and  
Clear Fork in Morgan and  
Scott Counties

Lewis County

Press RETURN key to continue ...

CENSUS DATA  
=====

VULCAN CORPORATION

LATITUDE 36:32: 6 LONGITUDE 87:20:37 1990 POPULATION

	0.00-.400	.400-.810	.810-1.60	1.60-3.20	3.20-4.80	4.80-6.40	SECTOR TOTALS
KM	0.00-.400	.400-.810	.810-1.60	1.60-3.20	3.20-4.80	4.80-6.40	
S 1	0	14	0	0	0	0	14
S 2	0	0	2238	1039	2096	422	5795
S 3	0	0	1712	0	5050	5807	12569
S 4	241	0	0	5977	2363	0	8581
S 5	0	0	473	1916	846	2413	5648
S 6	538	0	2335	1991	3506	6477	14847
RING	779	14	6758	10923	13861	15119	47454
TOTALS							

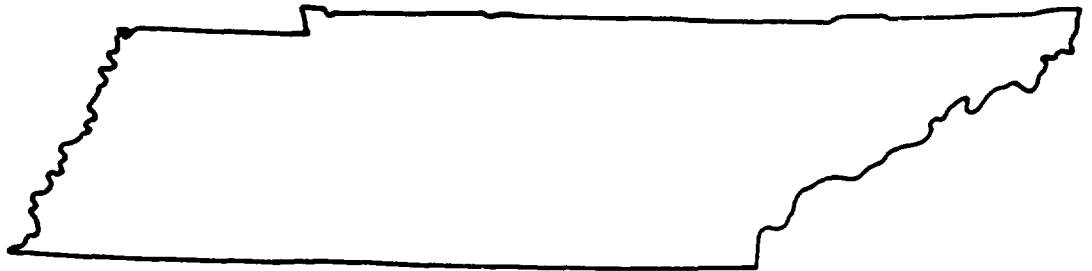
Press RETURN key to continue ...

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# Water Resources Data Tennessee Water Year 1990

by D.F. Flohr, P.H. Counts, F.D. Edwards, and J.W. Garrett



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT TN-90-1  
Prepared in cooperation with the State of Tennessee  
and with other agencies

**DEPARTMENT OF THE INTERIOR**  
**MANUEL LUJAN, JR., SECRETARY**  
**U.S. GEOLOGICAL SURVEY**  
**Dallas L. Peck, Director**

For information on the water program in Tennessee write to  
District Chief, Water Resources Division  
U.S. Geological Survey  
810 Broadway, Suite 500  
Nashville, Tennessee 37203

1991

## CUMBERLAND RIVER BASIN

03436100 RED RIVER AT PORT ROYAL, TN

LOCATION.--Lat 36°33'17", Long 87°08'31", Montgomery County, Hydrologic Unit 05130206, on left bank at county road bridge at Port Royal, 250 ft downstream from Sulphur Fork, and at mile 25.5.

DRAINAGE AREA.--935 mi<sup>2</sup> includes 437 mi<sup>2</sup> without surface drainage.

PERIOD OF RECORD.--July 1961 to current year.

GAGE.--Water-stage encoder and crest-stage gage. Datum of gage is 376.25 ft above National Geodetic Vertical Datum of 1929. July 13, 1961, to Oct. 9, 1963, nonrecording gage and crest-stage gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--29 years, 1,332 ft<sup>3</sup>/s, 19.35 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 60,300 ft<sup>3</sup>/s, Mar. 13, 1975, gage height, 48.26 ft; minimum, 54 ft<sup>3</sup>/s, Sept. 17, 18, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 23, 1937, reached a stage of 44.4 ft; from flood profile of U.S. Army Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 11,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Feb. 4	0930	*31,400	*37.91	Feb. 16	1930	11,100	23.77
Feb. 10	2130	16,000	28.78				

Minimum discharge, 94 ft<sup>3</sup>/s, Sept. 19, 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1000	216	334	2920	2830	1390	1550	487	743	280	188	180
2	1180	218	326	1540	3570	1320	1320	471	676	276	184	179
3	741	218	321	1120	13600	1270	1170	480	2950	268	180	174
4	517	217	311	1120	29900	1330	1070	484	3000	257	179	169
5	392	218	303	1540	16800	1190	1020	484	1700	254	228	165
6	327	228	299	1330	7050	1110	981	504	1340	244	252	164
7	297	239	299	1100	4890	1040	947	468	1410	246	281	173
8	273	253	296	986	3910	994	871	438	1150	241	232	242
9	256	267	296	858	3650	968	805	415	922	237	205	196
10	242	305	296	770	13000	934	779	408	807	233	193	139
11	231	283	287	685	10600	889	815	388	720	226	187	157
12	219	266	282	614	5440	853	795	369	622	260	180	174
13	215	253	286	556	4140	814	733	364	566	313	173	242
14	209	249	289	501	3480	786	710	364	521	296	173	225
15	201	271	284	471	3150	811	765	352	487	282	171	182
16	211	506	285	453	8430	3030	785	346	473	267	170	151
17	3560	1080	277	457	6810	3450	759	4690	433	251	169	128
18	3020	732	270	2050	4180	2310	778	3560	407	242	164	115
19	1210	580	268	2310	3510	1800	754	1780	497	233	155	111
20	881	513	238	2000	3020	1550	713	1340	421	229	151	123
21	694	473	238	3650	2640	1380	696	1150	378	224	145	136
22	559	457	210	2670	2460	1250	898	1070	456	222	145	469
23	464	450	218	2140	2320	1180	690	964	682	238	142	764
24	396	444	218	1850	2080	1060	658	817	510	247	179	300
25	346	422	211	1620	1840	1080	620	731	387	236	210	207
26	308	399	218	1450	1650	1160	576	667	331	228	200	166
27	272	394	229	1250	1570	1040	551	620	310	218	197	146
28	243	382	235	1120	1500	964	531	1770	295	211	188	132
29	219	362	235	3120	---	933	525	1890	288	204	193	116
30	212	351	269	5970	---	965	510	1150	282	198	184	105
31	213	---	1640	3720	---	1460	---	879	---	195	182	---
TOTAL	19108	11255	9768	51921	168020	40291	24171	29898	23764	7556	5780	5930
MEAN	616	375	315	1675	6001	1300	806	964	792	244	186	198
MAX	3560	1080	1640	5870	29900	3450	1550	4690	3000	313	281	764
MIN	201	216	210	453	1500	786	510	346	282	195	142	105
CFSM	.66	.40	.34	1.79	6.42	1.39	.86	1.03	.85	.26	.20	.21
IN.	.76	.45	.39	2.07	8.88	1.60	.86	1.19	.95	.30	.23	.24

CAL YR 1989 TOTAL 779390 MEAN 2135 MAX 28700 MIN 159 CFSM 2.28 IN. 31.01  
WTR YR 1990 TOTAL 397462 MEAN 1089 MAX 29900 MIN 105 CFSM 1.16 IN. 15.81

## RESERVOIRS IN CUMBERLAND RIVER BASIN--Continued

03430050 J. PERCY PRIEST RESERVOIR.--Lat 36°09'23", long 86°37'07", Davidson County, Hydrologic Unit 05130203, on upstream face of J. Percy Priest Dam on Stones River, 2.6 mi east of Donelson, and 6.8 mi above mouth. DRAINAGE AREA, 892 mi<sup>2</sup>. PERIOD OF RECORD, September 1967 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Dec. 15, 1967, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by concrete gravity dam with earth embankments. Spillway is equipped with four taintor gates, each 41 ft high by 45 ft wide. Closure of dam was made Sept. 18, 1967; water in reservoir first reached ordinary minimum pool May 15, 1968. Revised capacity table used after Sept. 30, 1970. Total capacity at elevation 504.5 ft, maximum controlled pool, is 328,700 cfs-days of which 193,600 cfs-days is controlled storage between elevations 504.5 ft and 480.0 ft, ordinary minimum pool. Contents of 17,200 cfs-days between elevations 480.0 ft and 483.0 ft, full winter pool, is available for power production. Contents of 178,400 cfs-days above 483.0 ft is available for flood control during the winter, and 131,100 cfs-days above 480.0 ft, full pool during spring-to-fall season, is available for flood control the rest of the year. Contents of 135,100 cfs-days below elevation 480.0 ft is dead storage. Reservoir is used for flood control, power, recreation, and wildlife.

COOPERATION.--Records furnished by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 336,500 cfs-days, May 9, 1984, elevation, 505.18 ft; minimum, after first filling to ordinary minimum pool, 109,500 cfs-days, Dec. 5, 1968, elevation, 474.75 ft. EXTREMES FOR CURRENT YEAR.--Maximum contents, 239,200 cfs-days, Oct. 3, elevation, 495.41 ft; minimum, 148,100 cfs-days, Feb. 25, elevation, 481.95 ft.

03434900 CHEATHAM LAKE.--Lat 36°18'56", long 87°13'10", Cheatham County, Hydrologic Unit 05130202, at Cheatham Dam on Cumberland River, 9.4 mi west of Ashland City, 16 mi southeast of the courthouse in Clarksville, and at mile 148.7. DRAINAGE AREA, 14,159 mi<sup>2</sup>.

REMARKS.--Reservoir is formed by concrete gravity dam. Spillway is equipped with seven semi-submersible taintor gates, each 27 ft high by 60 ft wide. Total capacity at elevation 385.0 ft, normal pool, is 52,200 cfs-days, of which 9,800 cfs-days are controlled storage. Records of contents not published herein.

03438210 LAKE BARKLEY.--Lat 37°01'17", long 88°13'18", Lyon County, KY, Hydrologic Unit 05130205, in powerhouse of Barkley Dam on Cumberland River, 1.4 mi northeast of Grand Rivers, KY, and at mile 30.8. DRAINAGE AREA, 17,598 mi<sup>2</sup>. PERIOD OF RECORD, July 1964 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929, (levels by U.S. Army Corps of Engineers). Prior to Jan. 1, 1966, nonrecording gage, 1,200 ft upstream from Barkley Dam at same datum.

REMARKS.--Reservoir is formed by concrete gravity dam with earth embankments. Spillway is equipped with 12 taintor gates, each 50 ft high by 55 ft wide. Construction cofferdam was closed and limited storage began July 1, 1964; reservoir reached ordinary minimum pool elevation of 354.0 ft Feb. 16, 1966. Total level pool capacity at elevation 375.0 ft, top of gates, is 1,049,600 cfs-days, of which 742,000 cfs-days is controlled storage above 354.0 ft, ordinary minimum pool. Contents of 130,500 cfs-days between ordinary minimum pool elevation, 354.0 ft, and full pool elevation, 359.0 ft, is available for power during the spring-to-fall season. Minimum pool elevation in advance of floods is 346.0 ft, contents 171,000 cfs-days. Reservoir is used for navigation, flood control, power, and recreation. Barkley-Kentucky Canal opened June 13, 1966, for navigation and power use. Canal is 1.75 mi long and interconnects Lake Barkley and Kentucky Lake at a point 2.2 mi upstream from Barkley Dam. For daily discharges through the canal, see station 03438190, Kentucky reports.

COOPERATION.--Records furnished by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 370.04 ft, May 13, 1984; minimum after reaching permanent pool elevation, 353.20 ft, Dec. 20, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 584,500 cfs-days, May 27, elevation, 363.50 ft; minimum contents, 293,200 cfs-days, Dec. 22, minimum elevation, 353.35 ft. Contents based on backwater profile.

## MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

Date	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)
	03430050 J. PERCY PRIEST LAKE			03438210 LAKE BARKLEY‡		
Sept. 30.....	491.80	210,900	-	354.48	318,600	-
Oct. 31.....	487.08	177,400	-33,500	354.10	319,700	+1,100
Nov. 30.....	484.79	182,800	-14,600	353.85	316,400	-3,300
Dec. 31.....	483.95	157,700	-5,100	354.25	332,900	+16,500
CAL YR 1989	-	-	-15,800	-	-	-43,900
Jan. 31.....	484.10	158,600	+900	354.63	351,200	+18,300
Feb. 28.....	486.75	147,000	-11,600	354.26	331,600	-19,600
Mar. 31.....	484.18	159,100	+12,100	355.13	343,900	+12,300
Apr. 30.....	486.65	174,700	+15,600	359.24	445,200	+101,300
May 31.....	490.28	199,500	+24,800	363.34	574,500	+129,300
June 30.....	490.10	198,300	-1,200	359.22	446,900	-127,600
July 31.....	490.14	198,600	+300	358.35	366,200	-80,700
Aug. 31.....	490.03	197,800	-800	355.38	340,700	-25,500
Sept. 30.....	487.38	179,500	-18,300	354.69	323,700	-17,000
WTR YR 1990	-	-	-31,400	-	-	+5,100

‡ Contents based on backwater profile.

218  
REGION: 04  
STATE : TN

U.S. ENVIRONMENTAL PROTECTION AGENCY  
OFFICE OF EMERGENCY AND REMEDIAL RESPONSE  
C E R C L I S V 1.2

1017  
RUN DATE: 02/03/87  
RUN TIME: 13:53:24

M.2 - SITE MAINTENANCE FORM

EPA ID : TND057874125		* ACTION: _	*
SITE NAME: VULCAN CORP	SOURCE: H	* _____	*
STREET : PETTUS ST	CONG DIST: 07	* _____	*
CITY : CLARKSVILLE	ZIP: 37040	* _____	*
CNTY NAME: MONTGOMERY	CNTY CODE : 125	* _____	*
LATITUDE : 36/32/06.0	LONGITUDE : 087/20/37.0	* _/_/_.	*
LL-SOURCE: R	LL-ACCURACY:	* _	*
SMSA : 1660	HYDRO UNIT: 05130205	* _____	*
INVENTORY IND: Y	REMEDIAL IND: Y	* _	*
REMOVAL IND: N	FED FAC IND: N	* _	*
NPL IND: N	NPL LISTING DATE:	* _/_	*
	NPL DELISTING DATE:	* _/_	*
SITE/SPILL IDS:		* _ _ _ _	*
RPM NAME:	RPM PHONE: - -	* _____	*
SITE CLASSIFICATION:	SITE APPROACH:	* _	*
DIOXIN TIER:	REG FLD1:	* _____	*
	REG FLD2: 6	* _____	*
RESP TERM: PENDING ( )	NO FURTHER ACTION ( )	* PENDING ( )	*
		* NO FURTHER ACTION ( )	*
ENF DISP: NO VIABLE RESP PARTY ( )	VOLUNTARY RESPONSE ( )	* _	*
	ENFORCED RESPONSE ( )	* _	*
	COST RECOVERY ( )	* _	*
SITE DESCRIPTION:		* _____	*
		* _____	*
		* _____	*
		* _____	*



REGION: 04  
STATE : TN

U.S. ENVIRONMENTAL PROTECTION AGENCY  
OFFICE OF EMERGENCY AND REMEDIAL RESPONSE  
C E R C L I S V 1.2

F : 1018  
RUN DATE: 02/03/87  
RUN TIME: 13:53:24

M.2 - PROGRAM MAINTENANCE FORM

SITE: VULCAN CORP

EPA ID: TND057874125 PROGRAM CODE: H01 PROGRAM TYPE:

PROGRAM QUALIFIER: ALIAS LINK :

PROGRAM NAME: SITE EVALUATION

DESCRIPTION:

\* ACTION: \_

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REGION: 04  
STATE : TN

U.S. ENVIRONMENTAL PROTECTION AGENCY  
OFFICE OF EMERGENCY AND REMEDIAL RESPONSE  
C E R C L I S V 1.2

1 : 1019  
RUN DATE: 02/03/87  
RUN TIME: 13:53:24

M.2 - EVENT MAINTENANCE FORM

SITE: VULCAN CORP  
PROGRAM: SITE EVALUATION

EPA ID: TND057874125 PROGRAM CODE: H01

EVENT TYPE: DS1

FMS CODE: EVENT QUALIFIER :

EVENT LEAD: E

EVENT NAME: DISCOVERY

STATUS:

DESCRIPTION:

\* ACTION: \_

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\* \_ \_ \_ \_ \_ \*

\* \_ \_ \_ \_ \_ \*

ORIGINAL

CURRENT

ACTUAL

START:

START:

START:

\* \_/\_/\_/\_ \_/\_/\_/\_ \_/\_/\_/\_ \*

COMP :

COMP :

COMP : 08/01/80

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HQ COMMENT:

\* \_ \_ \_ \_ \_ \*

RG COMMENT:

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COOP AGR #

AMENDMENT #

STATUS

STATE %

0

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REGION: 04  
STATE : TN

U.S. ENVIRONMENTAL PROTECTION AGENCY  
OFFICE OF EMERGENCY AND REMEDIAL RESPONSE  
C E R C L I S V 1.2

1020  
RUN DATE: 02/03/87  
RUN TIME: 13:53:24

M.2 - EVENT MAINTENANCE FORM

SITE: VULCAN CORP  
PROGRAM: SITE EVALUATION

EPA ID: TND057874125 PROGRAM CODE: H01

EVENT TYPE: PA1

FMS CODE: EVENT QUALIFIER :

EVENT LEAD: S

EVENT NAME: PRELIMINARY ASSESSMENT

STATUS:

DESCRIPTION:

\* ACTION: \_

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ORIGINAL

CURRENT

ACTUAL

START:

START:

START: 01/01/84

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COMP :

COMP :

COMP : 08/01/84

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HQ COMMENT:

\* \_ \_ \_ \_ \*

RG COMMENT:

\* \_ \_ \_ \_ \*

COOP AGR #

AMENDMENT #

STATUS

STATE %

0

\* \_ \_ \_ \_ \*

REGION: 04  
STATE : TN

U.S. ENVIRONMENTAL PROTECTION AGENCY  
OFFICE OF EMERGENCY AND REMEDIAL RESPONSE  
C E R C L I S V 1.2

1021  
RUN DATE: 02/03/87  
RUN TIME: 13:53:24

M.2 - EVENT MAINTENANCE FORM

SITE: VULCAN CORP  
PROGRAM: SITE EVALUATION

EPA ID: TND057874125 PROGRAM CODE: H01

EVENT TYPE: SI1

FMS CODE: EVENT QUALIFIER :

EVENT LEAD: S

EVENT NAME: SITE INSPECTION

STATUS:

DESCRIPTION:

\* ACTION: \_

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ORIGINAL

CURRENT

ACTUAL

START:

START:

START: 06/01/84

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COMP :

COMP :

COMP : 08/01/84

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HQ COMMENT:

\* \_ \_ \_ \_ \*

RG COMMENT:

\* \_ \_ \_ \_ \*

COOP AGR #

AMENDMENT #

STATUS

STATE %

0

\* \_ \_ \_ \_ \*

REGION: 04  
STATE : TN

U.S. ENVIRONMENTAL PROTECTION AGENCY  
OFFICE OF EMERGENCY AND REMEDIAL RESPONSE  
C E R C L I S V 1.2

1022  
RUN DATE: 02/03/87  
RUN TIME: 13:53:24

M.2 - COMMENT MAINTENANCE FORM

SITE: VULCAN CORP  
EPA ID: TND057874125

COM  
NO COMMENT

ACTION

001 PART A ON FILE.

\* -

\*

002 DRUM STORAGE OF SOLVENTS AND SOLVEN  
T SLUDGES (F003 & F005). STORAGE

\* -

\*

003 OF LESS THAN 90 DAYS UNTIL SHIPMENT  
ELSEWHERE. ABOUT 3.2 TONS ANNUAL

\* -

\*

004 PRODUCTION. CONTACT THE CORP AT (61  
5) 645-6431, CLARKSVILLE, TN.

\* -

\*

## PRELIMINARY ASSESSMENT CHECKLIST (revised 8/22/84)

057774125 STATE

SITE ID: VULCAN CORP. RECOMMENDATION: No Further Action High Med Low Priority SI YES NO RCRA Facility?  
 Further Investigation (To be completed by: YES NO Other Permit?  
 Emergency/Remedial (Referred to: DATE)

Checklist Reviewer (name & date) YES NO Contact ? (name & phone) YES NO More information needed ?  
YES NO Site Location Adequate ? YES NO Type & Amount of Hazardous Waste ? (Surface water name, population)  
YES NO File Search Complete ? YES NO Responsible Party ? (address & phone) YES NO Accepted for ERRIS ?  
YES NO Rejected (Give Reasons)

CIRCLE THE APPROPRIATE ITEM(S) IF PROVIDED - CIRCLE THE HEADING NUMBER IF DATA IS MISSING.

1. TYPE OF OWNERSHIP	2. SITE DESCRIPTION	3. AGENCY PERFORMING INSPECTION	4. SITE STATUS	5. PHYSICAL STATES	6. WASTE QUANTITY AT SITE
P-PRIVATE	S-SURFACE IMP	E-EPA	<u>A</u> -ACTIVE	S-SOLID	* <u>T</u> -TONS
F-FEDERAL	P-PILES	C-EPA CONTRACTOR	I-INACTIVE	P-POWDER, FINES	* Y-CUBIC YAR
S-STATE	<u>D</u> -DRUMS-ABOVE	<u>S</u> -STATE	U-UNKNOWN	U-SLUDGE	* D-DRUMS (NU
C-COUNTY	T-TANK-ABOVE	N-OTHER CONTRACROR		R-SLURRY	
M-MUNICIPAL	B-TANK-BELOW	M-MUNICIPAL AGENCY		<u>D</u> -LIQUID	
O-OTHER	L-LANDFILL	L-LOCAL AGENCY		G-GAS	
U-UNKNOWN	F-LANDFARM	O-OTHER		O-OTHER	
	O-OPEN DUMP				

7. WASTE CHARACTERISTICS	8. WASTE TYPE	9. HAZARDOUS CONDITIONS	10. PERMIT INFORMATION
<u>T</u> -TOXIC	<u>S</u> -SLUDGE	G-GROUNDWATER CONTAMINATION	N-NPDES
C-CORROSIVE	O-OILY WASTE	S-SURFACE WATER CONTAMINATION	U-UIC
R-RADIOACTIVE	<u>L</u> -SOLVENTS	A-CONTAMINATION OF AIR	A-AIR ?
P-PERSISTENT	P-PESTICIDES	F-FIRE/EXPLOSIVE CONDITIONS	R-RCRA
S-SOLUBLE	G-ORGANICS	D-DIRECT CONTACT	I-INTERIM RCRA STATUS
I-INFECTIOUS	<u>A</u> -ACIDS	L-CONTAMINATION OF SOIL	C-SPCC PLAN
E-FLAMMABLE	B-BASES	W-DRINKING WATER CONTAMINATION	S-STATE
<u>G</u> -IGNITABLE	<u>M</u> -HEAVY METALS	I-WORKER EXPOSURE/INJURY	L-LOCAL
V-VOLATILE		P-POPULATION EXPOSURE/INJURY	O-OTHER
E-EXPLOSIVE		R-DAMAGE TO FLORA	F-NONE
A-REACTIVE	* REQUIRES ENTRIES	K-DAMAGE TO FLAUNA	
M-INCOMPATIBLE	IN "DESCRIPTION"	H-CONTAMINATION OF FOOD CHAIN	
O-OTHER	AND ADDITIONAL	T-UNSTABLE CONTAINMENT OF WASTES	
N-NOT APPLICABLE	SEQUENTIAL ENTRIES	M-DAMAGE TO OFFSITE PROPERTY	
	TO FULLY DESCRIBE	U-CONTAMINATION OF SEWERS, STORM DRAINS	
	SITE STATUS.	E-ILLEGAL/UNAUTHORIZED DUMPTIN	
		O-OTHER KNOWN, POTENTIAL, OR ALLEGED	

PRELIMINARY INSPECTION CHECKLIST (revised 6/30/84)

Check each item if complete - leave blank if incomplete or inadequate data provided.

Site Name and Location

       Site Name  
       Specific Location  
          (include street number)  
       City, State, Zip Code  
       County, County Code  
       Congressional District  
       Coordinates  
       Directions (+ MAP) to site

Responsible Parties

       Owner  
       Owner address and telephone  
       (S) Operator (indicate if same as owner)  
       (S) Operator address and telephone  
       Type of ownership  
       Owner/Operator notification 3001  
       (Person) to Contact (phone)

Characterization of Potential Hazard

       Site Inspection  
       Site Status  
       Substances on site  
          (Known or alleged)  
       Potential Hazard Description  
          (include relative population and  
          water body in vicinity)  
       Priority Assessment  
       Years of Operation  
       Other (Describe below)  
\_\_\_\_\_  
\_\_\_\_\_

Description of Hazardous Conditions, etc.

       (ON MAP) Surface Water Name ( river, lake, stream)  
       Potential Population (town, population)  
       Pertinent Hydrogeologic Information  
          (aquifer recharge area, significant  
          geologic structures in vicinity)  
       Type of Hazardous Waste  
       Amount of Hazardous Waste  
       Concentration of Hazardous Substances  
       Measure of concentration  
       Source and Date of Reports Cited (Incomplete)

## OFFICE CORRESPONDENCE

**SUBJECT:** §3012 Program - Site Investigations  
Vulcan Corporation

FROM	TO	DATE

Vulcan operates under RCRA regulations and there is no evidence of any abandoned or unregulated, on-site disposal areas. Based on these findings, NO FURTHER ACTION is required by the §3012 program.

*Silene parviflora*, speciosa arvensis. Linn. Sp. Pl.

~~Confidential~~

11-11-19

FROM	DATE

10

[illegible]





POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
TN 0057874125

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, Common, or descriptive name of site)  
VULCAN CORPORATION

02 STREET, ROUTE NO. OR SPECIFIC LOCATION IDENTIFIER  
PETTUS STREET

03 CITY  
CLARKSVILLE

04 STATE 05 ZIP CODE 06 COUNTY 07 COUNTY CODE 08 CONG DIST  
TN 37040 MONTGOMERY 125 06

09 COORDINATES  
LATITUDE 36 32 06. LONGITUDE 087 20 37.

10 TYPE OF OWNERSHIP (Check one)  
☒ A PRIVATE ☐ B FEDERAL ☐ C STATE ☐ D COUNTY ☐ E MUNICIPAL ☐ F OTHER ☐ G UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION 02 SITE STATUS 03 YEARS OF OPERATION  
3 21 84 ☒ ACTIVE ☐ INACTIVE '72 PRESENT UNKNOWN  
MONTH DAY YEAR BEGINNING YEAR ENDING YEAR

04 AGENCY PERFORMING INSPECTION (Check all that apply)

☐ A. EPA ☐ B. EPA CONTRACTOR ☐ C. MUNICIPAL ☐ D. MUNICIPAL CONTRACTOR  
☒ E. STATE ☐ F. STATE CONTRACTOR ☐ G. OTHER

05 CHIEF INSPECTOR 06 TITLE 07 ORGANIZATION 08 TELEPHONE NO.  
BILL FORRESTER PROJECT DIRECTOR, 3012 SWM (615) 741-6287

09 OTHER INSPECTORS 10 TITLE 11 ORGANIZATION 12 TELEPHONE NO.  
RONNIE BOWERS CHEMIST SWM (615) 741-6287

CHARLES ALLEN ENVIRONMENTAL ENGR. SWM (615) 741-6287

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( )

13 SITE REPRESENTATIVES INTERVIEWED 14 TITLE 15 ADDRESS 16 TELEPHONE NO.  
JOE DEW GEN. MGR. VULCAN, PETTUS ST (615) 645-6431

WILLIE WILLIAMS SAFETY MGR. VULCAN, PETTUS ST. (615) 645-6431

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17 ACCESS GAINED BY (Check one) 18 TIME OF INSPECTION 19 WEATHER CONDITIONS  
☒ PERMISSION 8:30 AM COLD, OVERCAST, RAINY  
☐ WARRANT

IV. INFORMATION AVAILABLE FROM

01 CONTACT 02 OF (Agency, Organization) 03 TELEPHONE NO.  
JOE DEW VULCAN CORP. (615) 645-6431

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM 05 AGENCY 06 ORGANIZATION 07 TELEPHONE NO. 08 DATE  
CHARLES ALLEN SWM TN DEPT H&E 615-741-6287 3 22 84  
MONTH DAY YEAR



<b>01 PHYSICAL STATES</b> <i>Check all that apply.</i> <input type="checkbox"/> A SOLID <input type="checkbox"/> B POWDER FINES <input type="checkbox"/> C SLUDGE <input type="checkbox"/> D OTHER _____ <i>Specify.</i>	<b>02 WASTE QUANTITY AT SITE</b> <i>Measure of waste quantities must be independent.</i> <input checked="" type="checkbox"/> E SLURRY <input checked="" type="checkbox"/> F LIQUID <input type="checkbox"/> G GAS TONS _____ CUBIC YARDS _____ NO OF DRUMS <u>4/3 no.</u>	<b>03 WASTE CHARACTERISTICS</b> <i>Check all that apply.</i> <input checked="" type="checkbox"/> A TOXIC <input type="checkbox"/> B CORROSIVE <input type="checkbox"/> C RADIOACTIVE <input type="checkbox"/> D PERSISTENT <input type="checkbox"/> E SOLUBLE <input type="checkbox"/> F INFECTIOUS <input type="checkbox"/> G FLAMMABLE <input checked="" type="checkbox"/> H IGNITABLE <input type="checkbox"/> I HIGHLY VOLATILE <input type="checkbox"/> J EXPLOSIVE <input type="checkbox"/> K REACTIVE <input type="checkbox"/> L INCOMPATIBLE <input type="checkbox"/> M NOT APPLICABLE
---	--	---

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			5PINT SOLVENTS
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

[illegible]

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

## EPA FORM 2070-13 (7-81)



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
TN 0057874125

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☐ A. GROUNDWATER CONTAMINATION 02 ☐ OBSERVED (DATE \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

01 ☐ B. SURFACE WATER CONTAMINATION 02 ☐ OBSERVED (DATE \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

01 ☐ C. CONTAMINATION OF AIR 02 ☐ OBSERVED (DATE \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS 02 ☐ OBSERVED (DATE \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

01 ☐ E. DIRECT CONTACT 02 ☐ OBSERVED (DATE \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

01 ☐ F. CONTAMINATION OF SOIL 02 ☐ OBSERVED (DATE \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 AREA POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION  
Acres:

01 ☐ G. DRINKING WATER CONTAMINATION 02 ☐ OBSERVED (DATE \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

01 ☐ H. WORKER EXPOSURE/INJURY 02 ☐ OBSERVED (DATE \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 WORKERS POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

01 ☐ I. POPULATION EXPOSURE/INJURY 02 ☐ OBSERVED (DATE \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
TN 0057874125

II. HAZARDOUS CONDITIONS AND INCIDENTS *(continued)*

01 ☐ J. DAMAGE TO FLORA  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED

01 ☐ K. DAMAGE TO FAUNA  
04 NARRATIVE DESCRIPTION *(include names of species)*

02 ☐ OBSERVED (DATE \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED

01 ☐ L. CONTAMINATION OF FOOD CHAIN  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES

*Spills. Runoff. Standing liquids. Leaking drums.*  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_

02 ☐ OBSERVED (DATE \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED

04 NARRATIVE DESCRIPTION

01 ☐ N. DAMAGE TO OFFSITE PROPERTY  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

III. TOTAL POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_

IV. COMMENTS

V. SOURCES OF INFORMATION *(Cite specific references e.g., state files, sample analysis reports.)*



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION  
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 STATE TH 02 SITE NUMBER 3057874125

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
<input type="checkbox"/> A. NPDES				
<input type="checkbox"/> B. UIC				
<input type="checkbox"/> C. AIR				
<input type="checkbox"/> D. RCRA				
<input type="checkbox"/> E. RCRA INTERIM STATUS				
<input type="checkbox"/> F. SPCC PLAN				
<input type="checkbox"/> G. STATE (Specify)				
<input type="checkbox"/> H. LOCAL (Specify)				
<input type="checkbox"/> I. OTHER (Specify)				
<input type="checkbox"/> J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE	04 TREATMENT (Check all that apply)	05 OTHER
<input type="checkbox"/> A. SURFACE IMPOUNDMENT			<input type="checkbox"/> A. INCENERATION	<input checked="" type="checkbox"/> A. BUILDINGS ON SITE
<input type="checkbox"/> B. PILES			<input type="checkbox"/> B. UNDERGROUND INJECTION	
<input checked="" type="checkbox"/> C. DRUMS, ABOVE GROUND			<input type="checkbox"/> C. CHEMICAL/PHYSICAL	
<input type="checkbox"/> D. TANK, ABOVE GROUND			<input type="checkbox"/> D. BIOLOGICAL	
<input type="checkbox"/> E. TANK, BELOW GROUND			<input type="checkbox"/> E. WASTE OIL PROCESSING	
<input type="checkbox"/> F. LANDFILL			<input type="checkbox"/> F. SOLVENT RECOVERY	06 AREA OF SITE
<input type="checkbox"/> G. LANDFARM			<input type="checkbox"/> G. OTHER RECYCLING/RECOVERY	<u>30</u> (Acres)
<input type="checkbox"/> H. OPEN DUMP			<input type="checkbox"/> H. OTHER (Specify)	
<input type="checkbox"/> I. OTHER (Specify)				

07 COMMENTS

SPENT SOLVENTS TRANSPORTED TO CHEM FUEL. WASTE OILS TRANSPORTED TO TH. OIL & REFINING. NO ON-SITE DISPOSAL. B.F. 600 RICH OWNED THE COMPANY PRIOR '72. TRASH IS TAKEN TO SANITARY LANDFILL

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

☒ A. ADEQUATE, SECURE ☐ B. MODERATE ☐ C. INADEQUATE, POOR ☐ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

WASTES STORED IN 55 gal DRUMS ON PALLETS OUTSIDE AND LABELED.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☒ YES ☐ NO

02 COMMENTS

VI. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

JOE DEW (SITE INTERVIEW)



**POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA**

**I. IDENTIFICATION**

01 STATE <u>TX</u>	02 SITE NUMBER <u>0057874125</u>
-----------------------	-------------------------------------

**II. DRINKING WATER SUPPLY**

01 TYPE OF DRINKING SUPPLY  
(Check as applicable)

SURFACE WELL

COMMUNITY	A. <input type="checkbox"/>	B. <input type="checkbox"/>
NON-COMMUNITY	C. <input type="checkbox"/>	D. <input type="checkbox"/>

02 STATUS

ENDANGERED AFFECTED MONITORED

A. <input type="checkbox"/>	B. <input type="checkbox"/>	C. <input type="checkbox"/>
D. <input type="checkbox"/>	E. <input type="checkbox"/>	F. <input type="checkbox"/>

03 DISTANCE TO SITE

A. \_\_\_\_\_ (mi)  
B. \_\_\_\_\_ (mi)

**III. GROUNDWATER**

01 GROUNDWATER USE IN VICINITY (Check one)

☐ A. ONLY SOURCE FOR DRINKING  
☐ B. DRINKING  
(Other sources available)  
COMMERCIAL, INDUSTRIAL, IRRIGATION  
(No other water sources available)  
☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION  
(Limited other sources available)  
☐ D. NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER \_\_\_\_\_

03 DISTANCE TO NEAREST DRINKING WATER WELL \_\_\_\_\_ (mi)

04 DEPTH TO GROUNDWATER

\_\_\_\_\_(ft)

05 DIRECTION OF GROUNDWATER FLOW

\_\_\_\_\_

06 DEPTH TO AQUIFER  
OF CONCERN

\_\_\_\_\_(ft)

07 POTENTIAL YIELD  
OF AQUIFER

\_\_\_\_\_(gpd)

08 SOLE SOURCE AQUIFER

☐ YES ☐ NO

09 DESCRIPTION OF WELLS (including usage, depth, and location relative to population and buildings)

10 RECHARGE AREA

☐ YES  
☐ NO

COMMENTS

11 DISCHARGE AREA

☐ YES  
☐ NO

COMMENTS

**IV. SURFACE WATER**

01 SURFACE WATER USE (Check one)

☐ A. RESERVOIR, RECREATION  
DRINKING WATER SOURCE  
☐ B. IRRIGATION, ECONOMICALLY  
IMPORTANT RESOURCES  
☐ C. COMMERCIAL, INDUSTRIAL  
☐ D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:

AFFECTED

DISTANCE TO SITE

_____	<input type="checkbox"/>	_____ (mi)
_____	<input type="checkbox"/>	_____ (mi)
_____	<input type="checkbox"/>	_____ (mi)

**V. DEMOGRAPHIC AND PROPERTY INFORMATION**

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE

TWO (2) MILES OF SITE

THREE (3) MILES OF SITE

A. \_\_\_\_\_  
NO. OF PERSONS

B. \_\_\_\_\_  
NO. OF PERSONS

C. \_\_\_\_\_  
NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION

\_\_\_\_\_ (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE

\_\_\_\_\_

04 DISTANCE TO NEAREST OFF-SITE BUILDING

\_\_\_\_\_ (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

TN 0057874125

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A  $10^{-9}$  -  $10^{-8}$  cm/sec ☐ B  $10^{-8}$  -  $10^{-7}$  cm/sec ☐ C  $10^{-7}$  -  $10^{-6}$  cm/sec ☐ D GREATER THAN  $10^{-6}$  cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A IMPERMEABLE ☐ B RELATIVELY IMPERMEABLE ☐ C RELATIVELY PERMEABLE ☐ D VERY PERMEABLE  
Less than  $10^{-9}$  cm/sec  $10^{-9}$  -  $10^{-8}$  cm/sec  $10^{-8}$  -  $10^{-7}$  cm/sec Greater than  $10^{-7}$  cm/sec

03 DEPTH TO BEDROCK

\_\_\_\_\_ (ft)

04 DEPTH OF CONTAMINATED SOIL ZONE

\_\_\_\_\_ (ft)

05 SOIL pH

06 NET PRECIPITATION

\_\_\_\_\_ (in)

07 ONE YEAR 24 HOUR RAINFALL

\_\_\_\_\_ (in)

08 SLOPE

SITE SLOPE

\_\_\_\_\_ %

DIRECTION OF SITE SLOPE

TERRAIN AVERAGE SLOPE

\_\_\_\_\_ %

09 FLOOD POTENTIAL

SITE IS IN \_\_\_\_\_ YEAR FLOODPLAIN

10

☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE

OTHER

A. \_\_\_\_\_ (mi)

B. \_\_\_\_\_ (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

\_\_\_\_\_ (mi)

ENDANGERED SPECIES \_\_\_\_\_

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL

RESIDENTIAL AREAS, NATIONAL STATE PARKS,  
FORESTS, OR WILDLIFE RESERVES

AGRICULTURAL LANDS  
PRIME AG LAND AG LAND

A. \_\_\_\_\_ (mi)

B. \_\_\_\_\_ (mi)

C. \_\_\_\_\_ (mi)

D. \_\_\_\_\_ (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

VII. SOURCES OF INFORMATION (Cite specific references, e.g., State files, sample analysis reports)



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION

01 STATE | 02 SITE NUMBER  
TN | 0057874125

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER			
SURFACE WATER			
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL			
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS

IV. PHOTOGRAPHS AND MAPS

01 TYPE <input type="checkbox"/> GROUND <input type="checkbox"/> AERIAL		02 IN CUSTODY OF _____ <small>(Name of organization or individual)</small>
03 MAPS <input type="checkbox"/> YES <input type="checkbox"/> NO	04 LOCATION OF MAPS _____	

V. OTHER FIELD DATA COLLECTED Provide narrative description.

VI. SOURCES OF INFORMATION (Cite specific references e.g. state files, sample analysis reports.)





POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 7 - OWNER INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
TN 0057874125

II. CURRENT OWNER(S)				PARENT COMPANY (if applicable)			
01 NAME		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
VULCAN CORP.							
03 STREET ADDRESS (P.O. Box, RFD, etc.)		04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD, etc.)		11 SIC CODE	
PETTUS ST.							
05 CITY		06 STATE		07 ZIP CODE		12 CITY	
CLARKSVILLE		TN		37040			
01 NAME		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD, etc.)		04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD, etc.)		11 SIC CODE	
05 CITY		06 STATE		07 ZIP CODE		12 CITY	
01 NAME		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD, etc.)		04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD, etc.)		11 SIC CODE	
05 CITY		06 STATE		07 ZIP CODE		12 CITY	
01 NAME		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD, etc.)		04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD, etc.)		11 SIC CODE	
05 CITY		06 STATE		07 ZIP CODE		12 CITY	
III. PREVIOUS OWNER(S) (List most recent first)				IV. REALTY OWNER(S) (if applicable, list most recent first)			
01 NAME		02 D+B NUMBER		01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD, etc.)		04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD, etc.)		04 SIC CODE	
05 CITY		06 STATE		05 CITY		06 STATE	
01 NAME		02 D+B NUMBER		01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD, etc.)		04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD, etc.)		04 SIC CODE	
05 CITY		06 STATE		05 CITY		06 STATE	
01 NAME		02 D+B NUMBER		01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD, etc.)		04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD, etc.)		04 SIC CODE	
05 CITY		06 STATE		05 CITY		06 STATE	
V. SOURCES OF INFORMATION (Cite specific references, e.g., State files, sample analysis, reports)							



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
TN 0057874125

II. PAST RESPONSE ACTIVITIES

01 <input type="checkbox"/> A. WATER SUPPLY CLOSED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> B. TEMPORARY WATER SUPPLY PROVIDED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> C. PERMANENT WATER SUPPLY PROVIDED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> D. SPILLED MATERIAL REMOVED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> E. CONTAMINATED SOIL REMOVED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> F. WASTE REPACKAGED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> G. WASTE DISPOSED ELSEWHERE 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> H. ON SITE BURIAL 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> I. IN SITU CHEMICAL TREATMENT 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> J. IN SITU BIOLOGICAL TREATMENT 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> K. IN SITU PHYSICAL TREATMENT 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> L. ENCAPSULATION 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> M. EMERGENCY WASTE TREATMENT 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> N. CUTOFF WALLS 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> O. EMERGENCY DIKING/SURFACE WATER DIVERSION 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> P. CUTOFF TRENCHES/SUMP 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> Q. SUBSURFACE CUTOFF WALL 04 DESCRIPTION	02 DATE _____	03 AGENCY _____



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
TN 0057874125

II. ON-SITE GENERATOR

01 NAME VULCAN CORPORATION	02 D+B NUMBER		
03 STREET ADDRESS (P.O. Box, RFD, etc.) PETTUS ST.	04 SIC CODE		
05 CITY CLARKSVILLE	06 STATE TN	07 ZIP CODE 37040	

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER		
03 STREET ADDRESS (P.O. Box, RFD, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD, etc.)	04 SIC CODE		
05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER		
03 STREET ADDRESS (P.O. Box, RFD, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD, etc.)	04 SIC CODE		
05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME RESOURCE RECYCLING	02 D+B NUMBER	01 NAME	02 D+B NUMBER		
03 STREET ADDRESS (P.O. Box, RFD, etc.) 1000 MARKET ST.	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD, etc.)	04 SIC CODE		
05 CITY PORTLAND	06 STATE TN	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER		
03 STREET ADDRESS (P.O. Box, RFD, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD, etc.)	04 SIC CODE		
05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

JOE DEW (SITE INTERVIEW)



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

TN 0057874125

II. CURRENT OPERATOR <small>(Provide if different from owner)</small>				OPERATOR'S PARENT COMPANY <small>(If applicable)</small>			
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS <small>(P.O. Box, RFD, etc.)</small>		04 SIC CODE		12 STREET ADDRESS <small>(P.O. Box, RFD, etc.)</small>		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER					
III. PREVIOUS OPERATOR(S) <small>(List most recent first; provide only if different from owner)</small>				PREVIOUS OPERATORS' PARENT COMPANIES <small>(If applicable)</small>			
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS <small>(P.O. Box, RFD, etc.)</small>		04 SIC CODE		12 STREET ADDRESS <small>(P.O. Box, RFD, etc.)</small>		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS <small>(P.O. Box, RFD, etc.)</small>		04 SIC CODE		12 STREET ADDRESS <small>(P.O. Box, RFD, etc.)</small>		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS <small>(P.O. Box, RFD, etc.)</small>		04 SIC CODE		12 STREET ADDRESS <small>(P.O. Box, RFD, etc.)</small>		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					

IV. SOURCES OF INFORMATION (Cite specific references, e.g., State files, sample analysis reports)



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
TN 0057874125

II PAST RESPONSE ACTIVITIES (Continued)

01 ☐ R. BARRIER WALLS CONSTRUCTED  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ S. CAPPING/COVERING  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ T. BULK TANKAGE REPAIRED  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ U. GROUT CURTAIN CONSTRUCTED  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ V. BOTTOM SEALED  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ W. GAS CONTROL  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ X. FIRE CONTROL  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ Y. LEACHATE TREATMENT  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ Z. AREA EVACUATED  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ 1. ACCESS TO SITE RESTRICTED  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ 2. POPULATION RELOCATED  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ 3. OTHER REMEDIAL ACTIVITIES  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

III. SOURCES OF INFORMATION Cite specific references, e.g., state files, sample analysis reports.



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
TN	0057874125

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☐ YES ☐ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)



POTENTIAL HAZARDOUS WASTE SITE  
PRELIMINARY ASSESSMENT  
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
TN D057874125

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site) Vulcan Corp.		02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER Pettus Street			
03 CITY Clarksville	04 STATE TN	05 ZIP CODE 37040	06 COUNTY Montgomery	07 COUNTY CODE 125	08 CONG DIST TN-06
09 COORDINATES LATITUDE 36 32 06. _		LONGITUDE 087 20 37. _			
10 DIRECTIONS TO SITE (Starting from nearest public road): I-24N to Clarksville. Take 2nd Clarksville exit, left, approximately 10 miles to Vulcan Corp.					

III. RESPONSIBLE PARTIES

01 OWNER (If known) Vulcan Corp.		02 STREET (Business, mailing, residential) 6 East Fourth Street			
03 CITY Cincinnati	04 STATE OH	05 ZIP CODE 45202	06 TELEPHONE NUMBER (513) 621-2850		
07 OPERATOR (If known and different from owner) Vulcan Corp.		08 STREET (Business, mailing, residential) Pettus Street			
09 CITY Clarksville	10 STATE TN	11 ZIP CODE 37040	12 TELEPHONE NUMBER (615) 645-6431		
13 TYPE OF OWNERSHIP (Check one): <input checked="" type="checkbox"/> A. PRIVATE <input type="checkbox"/> B. FEDERAL: _____ (Agency name): _____ <input type="checkbox"/> C. STATE <input type="checkbox"/> D. COUNTY <input type="checkbox"/> E. MUNICIPAL <input type="checkbox"/> F. OTHER: _____ (Specify): _____ <input type="checkbox"/> G. UNKNOWN					

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply):

☒ A. RCRA 3001 DATE RECEIVED: 11/19/80 MONTH DAY YEAR ☐ B. UNCONTROLLED WASTE SITE (RCRA 103) DATE RECEIVED: \_\_\_\_\_ MONTH DAY YEAR ☐ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION <input checked="" type="checkbox"/> YES DATE: _____ MONTH DAY YEAR <input type="checkbox"/> NO		02 BY (Check all that apply): <input type="checkbox"/> A. EPA <input type="checkbox"/> B. EPA CONTRACTOR <input type="checkbox"/> C. STATE <input type="checkbox"/> D. OTHER CONTRACTOR <input type="checkbox"/> E. LOCAL HEALTH OFFICIAL <input type="checkbox"/> F. OTHER: _____ (Specify): _____ CONTRACTOR NAME(S): _____			
02 SITE STATUS (Check one): <input checked="" type="checkbox"/> A. ACTIVE <input type="checkbox"/> B. INACTIVE <input type="checkbox"/> C. UNKNOWN		03 YEARS OF OPERATION BEGINNING YEAR: 1939 ENDING YEAR: present <input type="checkbox"/> UNKNOWN			

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

solvents - drum storage  
FOO3 + FOO5 solvent sludges

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

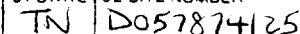
Drum storage of less than 90 days until shipment.

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents): <input type="checkbox"/> A. HIGH (Inspection required promptly) <input type="checkbox"/> B. MEDIUM (Inspection required) <input checked="" type="checkbox"/> C. LOW (Inspect on time available basis) <input type="checkbox"/> D. NONE (No further action needed, complete current disposition form)			
---	--	--	--

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency, Organization)		03 TELEPHONE NUMBER ( )	
04 PERSON RESPONSIBLE FOR ASSESSMENT Barry Brawley	05 AGENCY SWM	06 ORGANIZATION TN Dept. of H+E	07 TELEPHONE NUMBER 16151741-6287	08 DATE 12/21/83 MONTH DAY YEAR



☐ I. HIGHLY VOLATILE  
☐ J. EXPLOSIVE  
☐ K. REACTIVE  
☐ L. INCOMPATIBLE  
☐ M. NOT APPLICABLE





POTENTIAL HAZARDOUS WASTE SITE  
PRELIMINARY ASSESSMENT  
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
TN D057874125

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☐ A. GROUNDWATER CONTAMINATION 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

01 ☐ B. SURFACE WATER CONTAMINATION 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

01 ☐ C. CONTAMINATION OF AIR 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

01 ☐ E. DIRECT CONTACT 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

01 ☐ F. CONTAMINATION OF SOIL 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 AREA POTENTIALLY AFFECTED: \_\_\_\_\_ (Acres) 04 NARRATIVE DESCRIPTION

01 ☐ G. DRINKING WATER CONTAMINATION 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

01 ☐ H. WORKER EXPOSURE/INJURY 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 WORKERS POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

01 ☐ I. POPULATION EXPOSURE/INJURY 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION



POTENTIAL HAZARDOUS WASTE SITE  
PRELIMINARY ASSESSMENT  
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

TN D052874125

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

01 ☐ K. DAMAGE TO FAUNA  
04 NARRATIVE DESCRIPTION (include names) of species

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

01 ☐ L. CONTAMINATION OF FOOD CHAIN  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES  
(Spills/runoff/standing liquids/leaking drums)

03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

04 NARRATIVE DESCRIPTION

01 ☐ N. DAMAGE TO OFFSITE PROPERTY  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

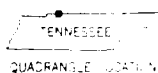
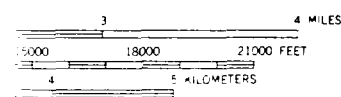
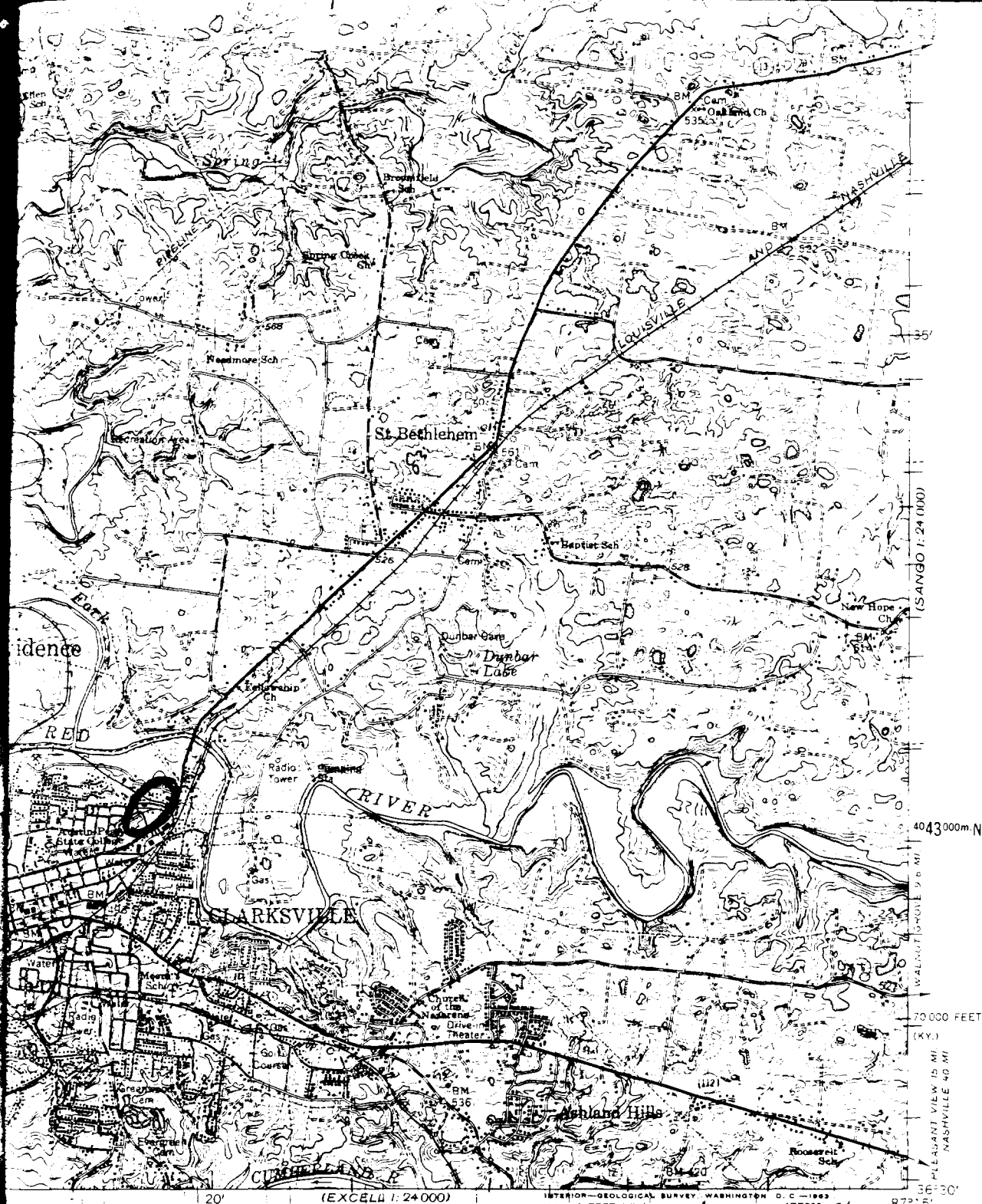
☐ ALLEGED

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

III. TOTAL POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references, e. g., state laws, sample analysis, reports)



ROAD CLASSIFICATION

Heavy-duty	—————	Light-duty	—————
Medium-duty	—————	Unimproved dirt	—————
U. S. Route	○	State Route	○

This area also covered by 7.5-minute, 1:24,000-scale maps: Hammacksville, Oak Grove, New Providence, and Clarksville 1957

CLARKSVILLE, TENN. - KY.  
N3630-W8715/15

1957

MAPS  
N 25, D.C.  
TENNESSEE,  
TUCKY,  
ANKFORT, KENTUCKY  
ABLE ON REQUEST

VULCAN

HENRIETTA 1:24,000



POTENTIAL HAZARDOUS WASTE SITE  
PRELIMINARY ASSESSMENT  
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 STATE | 02 SITE NUMBER  
TN | D057874125

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site) Vulcan Corp.		02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER Pettus Street			
03 CITY Clarksville	04 STATE TN	05 ZIP CODE 37040	06 COUNTY Montgomery	07 COUNTY CODE 125	08 CONG DIST TN-06
09 COORDINATES LATITUDE 36 32 06. -		LONGITUDE 087 20 37. -			

10 DIRECTIONS TO SITE (Starting from nearest public road)

I-24 N to Clarksville. Take 2nd Clarksville exit, left, approximately 10 miles to Vulcan Corp.

III. RESPONSIBLE PARTIES

01 OWNER (If known) Vulcan Corp.		02 STREET (Business, mailing, residential) 6 East Fourth Street			
03 CITY Cincinnati	04 STATE OH	05 ZIP CODE 45202	06 TELEPHONE NUMBER (513) 621-2850		
07 OPERATOR (If known and different from owner) Vulcan Corp.		08 STREET (Business, mailing, residential) Pettus Street			
09 CITY Clarksville	10 STATE TN	11 ZIP CODE 37040	12 TELEPHONE NUMBER (615) 645-6431		
13 TYPE OF OWNERSHIP (Check one) <input checked="" type="checkbox"/> A. PRIVATE <input type="checkbox"/> B. FEDERAL <input type="checkbox"/> C. STATE <input type="checkbox"/> D. COUNTY <input type="checkbox"/> E. MUNICIPAL <input type="checkbox"/> F. OTHER: _____ <input type="checkbox"/> G. UNKNOWN					

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)

☒ A. RCRA 3001 DATE RECEIVED: 11/19/80   ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 d) DATE RECEIVED: \_\_\_\_\_  
MONTH DAY YEAR   MONTH DAY YEAR   ☐ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION <input checked="" type="checkbox"/> YES   DATE _____ <input type="checkbox"/> NO   MONTH DAY YEAR		BY (Check all that apply) <input type="checkbox"/> A. EPA <input type="checkbox"/> B. EPA CONTRACTOR <input checked="" type="checkbox"/> C. STATE <input type="checkbox"/> D. OTHER CONTRACTOR <input type="checkbox"/> E. LOCAL HEALTH OFFICIAL <input type="checkbox"/> F. OTHER: _____ CONTRACTOR NAME(S): _____			
02 SITE STATUS (Check one) <input checked="" type="checkbox"/> A. ACTIVE <input type="checkbox"/> B. INACTIVE <input type="checkbox"/> C. UNKNOWN		03 YEARS OF OPERATION BEGINNING YEAR   ENDING YEAR 1939   present <input type="checkbox"/> UNKNOWN			

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

solvents - drum storage  
FO03 + FO05 solvent sludges

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

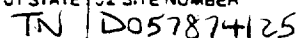
Drum storage of less than 90 days until shipment

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)  
☐ A. HIGH (Inspection required promptly)   ☐ B. MEDIUM (Inspection required)   ☒ C. LOW (Inspect on time available basis)   ☐ D. NONE (No further action needed, complete current assessment form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency, Organization)		03 TELEPHONE NUMBER	
04 PERSON RESPONSIBLE FOR ASSESSMENT Barry Brawley	05 AGENCY SWM	06 ORGANIZATION TN Dept. of H+E	07 TELEPHONE NUMBER (615) 741-6287	08 DATE 12 21 83 MONTH DAY YEAR



☐ I HIGHLY VOLATILE  
☐ J EXPLOSIVE  
☐ K REACTIVE  
☐ L INCOMPATIBLE  
☐ M NOT APPLICABLE



POTENTIAL HAZARDOUS WASTE SITE  
PRELIMINARY ASSESSMENT  
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
TN D057874125

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☐ A. GROUNDWATER CONTAMINATION 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

01 ☐ B. SURFACE WATER CONTAMINATION 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

01 ☐ C. CONTAMINATION OF AIR 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

01 ☐ E. DIRECT CONTACT 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

01 ☐ F. CONTAMINATION OF SOIL 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 AREA POTENTIALLY AFFECTED: \_\_\_\_\_ (Area) 04 NARRATIVE DESCRIPTION

01 ☐ G. DRINKING WATER CONTAMINATION 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

01 ☐ H. WORKER EXPOSURE/INJURY 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 WORKERS POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

01 ☐ I. POPULATION EXPOSURE/INJURY 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION



POTENTIAL HAZARDOUS WASTE SITE  
PRELIMINARY ASSESSMENT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

TN D052874125

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

01 ☐ K. DAMAGE TO FAUNA  
04 NARRATIVE DESCRIPTION (include names of species)

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

01 ☐ L. CONTAMINATION OF FOOD CHAIN  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES  
(Spill/runoff/staining sounds/leaking drums)

03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

04 NARRATIVE DESCRIPTION

01 ☐ N. DAMAGE TO OFFSITE PROPERTY  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

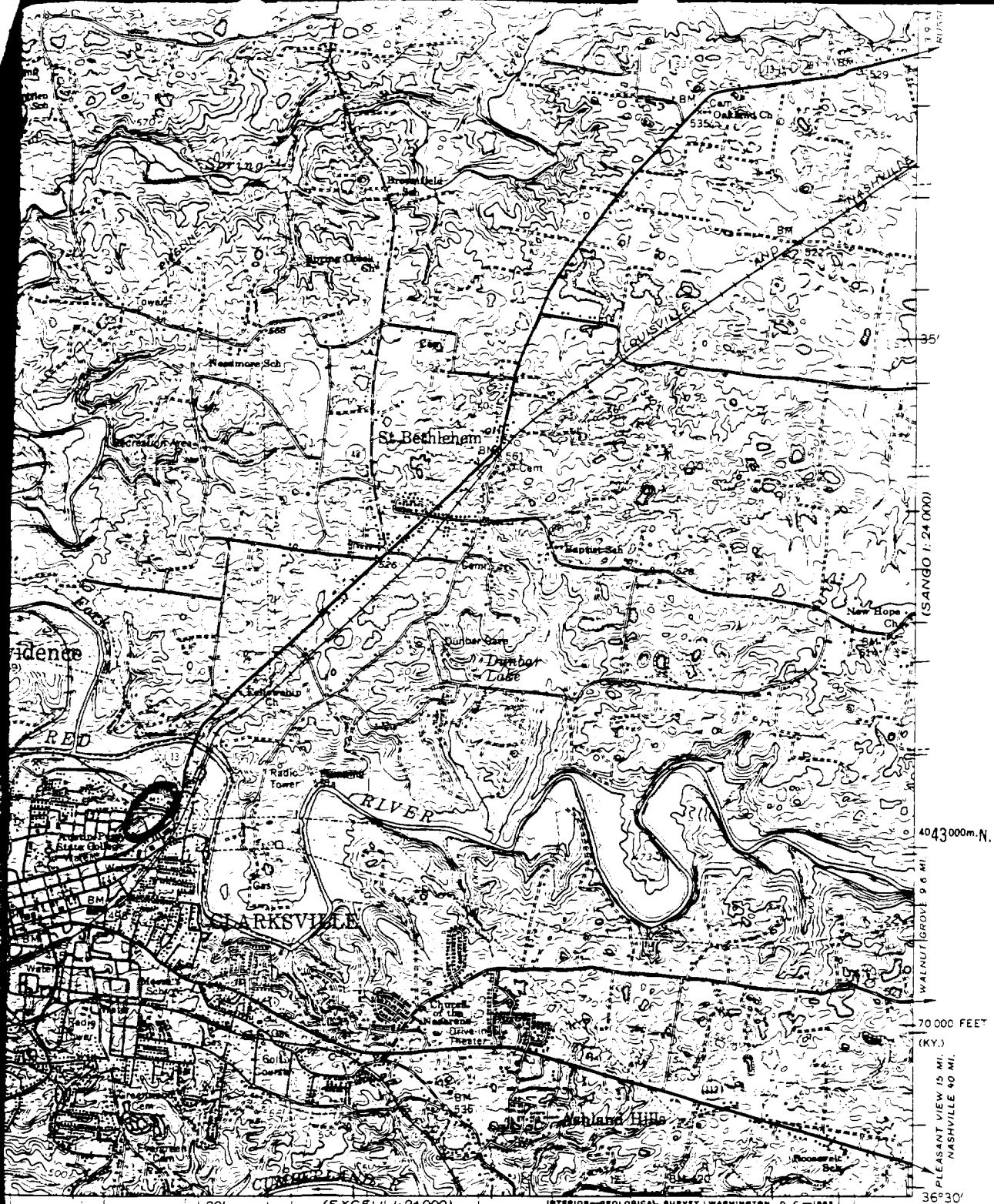
☐ ALLEGED

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL OR ALLEGED HAZARDS

III. TOTAL POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_

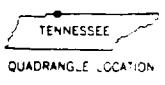
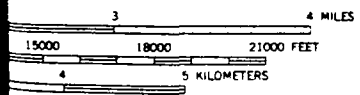
IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references, e. g., state logs, sample analysis, reports)



VULCAN

(HENRIETTA 1:24,000)



ROAD CLASSIFICATION

Heavy-duty	Light-duty
Medium-duty	Unimproved dirt
U.S. Route	State Route

This area also covered by 7.5-minute, 1:24,000-scale maps: Hammacksville, Oak Grove, New Providence and Clarksville 1957

CLARKSVILLE, TENN. - KY.  
N 3630-W 8715/15

1957

BYDARDS  
ON 25, D.C.  
NNESSEE,  
NTUCKY,  
RANKFORD, KENTUCKY  
ABLE ON REQUEST